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HEALTH AND THE MIND



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By
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FOREWORD

THE aim of the present work is admittedly ambitious. To present a popular outline of a big subject in true scientific perspective is not an easy task.

To view the question of mind-cure in its relation to the many other questions with which it is connected demands at least an elementary knowledge of physiology and psychology. The authors have endeavoured to meet this call as far as is possible in a book of this character.

The public is naturally more interested in the occurrence of a remarkable cure than in the attempt of science to explain the phenomenon. Some space has for this reason been devoted to records of undoubted recoveries at shrines and elsewhere. Extraordinary cures do occur, whether medicine can explain them or not.

The authors, who have drawn extensively upon their own and other medical records, offer these pages as their considered judgment after thirteen or fourteen years' investigation.

The scheme of the book is as follows :—

In Chapter I attention is directed to the fact that, while the influence of mind on body has been

recognized and discussed for centuries, the age which has come into being since the war is, for reasons given, particularly well equipped for careful and serious consideration of the whole problem. The second chapter emphasizes (a) the importance of the maintenance of contact between medicine and other departments of knowledge and speculation; (b) the necessity of holding broad views about those matters with which medical science is strictly concerned; and pleads for a "sane pragmatism" which, while speeding up scientific research, will insist that practical results must be fairly and impartially weighed.

Chapter III introduces us to the historical beginnings of medical science, considered as a science. Some typical developments are examined; and it is pointed out that insistence on results is usually found outside the orthodox medical schools, viz., in the Asclepian cult, the early Christian thaumaturgy, and the ritual of a succession of clever charlatans. This tendency having been noted as an early characteristic, we pass in Chapter IV to an inspection of that arch-charlatan, Mesmer, his *Baquet*, and the conflict with contemporary scientists in which he found himself involved. Here, again, Mesmer and his supporters are the "pragmatists"; medical science appears to ignore the practical results of the system which he was forcing on the attention of the world.

Chapter V may be regarded as the key chapter to the whole book. It begins by showing that, from the time of Mesmer's retirement, the "mind-cure" stream is found flowing in four main channels. We have (1) the magnetists *sans phrase*. This school

(apart from stray survivals) had a short life, becoming merged in (2) the spiritists about the middle of the last century. From these again emerged (3) Christian science, with (a) kindred schools of thought more or less vaguely Christian, (b) definitely Christian cults of "spiritual healing" which, though of recent appearance, join hands with the tradition of miraculous therapy which the Roman Catholic Church at any rate has always consistently maintained. Lastly, there is the strictly scientific school, which is now receiving a tardy acknowledgment. Chapter V deals with (1) and (2) of the above. The third (Christian science) comes under review in Chapter VI.

Chapter VII deals with the claims of modern "spiritual healing" and incidentally with the scientific attitude towards miracle. The next chapter (VIII) is devoted to a consideration of the element of confusion introduced by the incorrect use of terms, especially on the part of the supporters of "spiritual healing," and by a false system of natural philosophy deduced therefrom.

Chapter IX explains the main outlines of the "machinery of mind" as it is seen by modern physiology. Chapter X deals with the same subject from the point of view of the conscious being. In Chapter XI we proceed to review certain effects on sensation, and in Chapter XII the influences exerted on voluntary and involuntary muscles. Effects of special interest (e.g., "maternal impressions," stigmatization) are considered in Chapter XIII. In Chapter XIV other aspects of the sub-conscious mind, as viewed by the psychologist, are examined in some detail, and the definitely

therapeutic powers of mind over body in Chapter XV.

Chapter XVI summarizes the result and explains how in the immediate future psycho-therapy may be expected to occupy its proper place. The difficulties in the way are not disguised. The concluding chapter tries to show how life will be practically influenced in the case of the ordinary man and woman who accept the general conclusions reached in the earlier parts of the book.

An Appendix (dealing with an investigation into recent thaumaturgical claims) and a Glossary are added. It was felt that it was much more convenient to explain technical terms in this way than to insert an explanation (which would probably have to be repeated) every time a technical term was employed.

It is also believed that readers will prefer the "Harvard" method of referring to authorities herein adopted to the alternative plan of footnotes or marginal references. The system is quite simple. Let us suppose that the reference given is CXX, p. 56. The reader turns to the list of authorities on p. 348 and there finds that CXX represents Dr. J. Milne Bramwell's *Hypnotism and Treatment by Suggestion*. On p. 56 of that volume the quotation will be found.

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HEALTH AND THE MIND

CHAPTER I

PISGAH

THE influence of mind on body is no new fancy of a changing hour. In one form or another, with infinite variety of colour and texture and direction, it may be said to be as old as coherent thought. It is important that this should be grasped at the outset. Ephemeral ideas there are which may in one generation occupy the idle moments of whole classes of society, in another attach themselves to the armoury of a warring faction, while contrary theories are shouted by the opposing party, or in a third confirm the principles or feed the prejudices of those who all unconsciously mirror the time-spirit of their age. But these, in so far as they have no direct relation to root convictions, fade and perish, leaving only some fragment of living truth which zealous searchers may rescue from the dross and débris of a forsaken shrine.

Of a very different quality is the problem of the power of mind over body. It is always with us. It takes something from and gives something to the thought of every age. It is hardly an ex-

travagant assumption to suppose that it will remain an enigma, only partially solved, baffling, perplexing, tormenting, as long as the human race endures.

It is not, let it be remembered, only the saint and the idealistic philosopher who strive to escape the bondage of the flesh. Man, in selfish degradation as in sublime aspiration or lofty abstraction, desires to be master of his body. The consciousness of bodily weakness, to the anchorite a cause of exultation, is to the voluptuary a source of shame and torment.

And between these two extremes stands on the level the ordinary, plain child of man, by whom the world's work is carried on. His enjoyment of health and strength, his pathetic struggling against inevitable dissolution, the tricks and subterfuges by which he tries to cheat himself into the belief that pain and weakness and decay will pass him by—these are not wholly to be despised. They speak of a dim consciousness that man was meant to be master of himself. The Greek, whose worship of physical perfection was so intense that every revival of Hellenism has been by many taken to be a rejection of the claims of Calvary, was also the first to teach the world the dependence of the body on the soul. "This is the great error of our day," says Socrates in the *Charmides*, "that in the treatment of the human body physicians separate the soul from the body." For if the body be not worthy of redemption, we can hardly hope that it will ever be given to man to find the means whereby the putting forth of mind and will in redress of bodily discord may restore health or restrain passion. The first upward step, definitely and

consciously taken, towards the realization of "the desire native in man for reason and the will of God, the feeling after the universal order," is not infrequently inspired by a resolute conviction that,

"Every spirit, as it is most pure,
And hath in it the mode of heavenly light,
So it the fairer body doth procure
To habit in. . . .
For of the soul the body form doth take ;
For soul is form and doth the body make."

It was indeed under the spell of this wistful longing, this eager faith, that medical science, so far as we can trace it to-day, had its origin. The temples of Æsculapius, first at Epidaurus, then elsewhere, were usually so placed that the devotee might drink in the rich beauty of the surrounding landscape, while he bathed in the healing waters or submitted to the ministrations of the priest. And while the harmony of nature comforted and possessed him, encouraging hope in the restoration of physical well-being, the appeal was ever directed to the exercise of his own will-power. Whatever might be done by the application of such skill or scientific knowledge as was then available, whatever gift might be conferred by the *Filius Dei* in answer to prayer, it was the patient himself, so ran the teaching, who could most effectively advance or retard his cure.

Doubtless there was in all this something of the cardinal imperfection which can be traced to-day in the teaching of Christian Science, that system so suggestive and full of interest for all persons of thought and feeling. The attention of the votary

was always and of set purpose drawn away from suffering or sorrow. He who sought wholeness in life and body was bidden to disregard by voluntary act all that was painful or incomplete or uncomely, not merely in himself but in the outside world as well. Pater's well-known description gives a singularly accurate account of the methods commonly employed.

"To meditate much on beautiful visible objects, more especially, connected with the period of youth—on children at play in the morning, the trees in early spring . . . to keep by him if it were but a single choice flower, a graceful animal or sea-shell . . . to avoid jealously in his way through the world everything repugnant to sight; and, should any circumstance tempt him to a general converse in the range of such objects, to disentangle himself from that circumstance at any cost of time, place, money or opportunity; such were in brief outline the duties recognized, the rights demanded in this new formula of life." (I. Vol. i, p. 23.)

So a subtle selfishness was exalted into an obligation, and the symmetry of an exquisite ideal was marred by the very means designed for its completion. Epicureanism, even in its noblest and most attractive shape, is no substitute for the Way of Sorrows. The grace of form and pose in the gymnasium or palæstra is but a poor exchange for the self-immolation of a Vincent de Paul or a Damien. It is well for us that life should beckon and compel along a path which sometimes lies in shadow; and that those who seek to blend their song and laughter with the music of the hills, who demand attainment, and reject the bitter streams, should be driven by the decree of love to know failure, suffering, and the sorrows of remembrance

before they can ascend to the "heights that the soul is competent to gain."

To this aspect of our subject, which is indeed of the first importance, it will be necessary to return at a later stage. For the present, it is sufficient for our purpose if we see that, as the art of healing appeared in recognizable form, it carried with it insistence on the importance which must be assigned to the rôle played by the *mens sana*.

It is, of course, obvious that ideas of this kind will always suggest others which are in a sense complementary. If it is admitted that the mind can influence the body, the only question being whether we can exactly define the limits of such power, we cannot in reason refuse assent to the proposition that the body can influence the mind. Nor have men shown themselves disposed to refuse it. From the time of the Athenians, who cultivated bodily form and strength, not merely because they were in themselves desirable, but because Athens needed resourceful soldiers and far-seeing statesmen, down to our own day, physical culture has been regarded, partly as an end in itself, partly as a means to the attainment of a high standard of mental efficiency. We of this generation are not in the least inclined to ignore the patent fact that the underfed, overworked child makes slow progress with the multiplication table. There is no need to insist that the chronic dyspeptic is a cause of misery to himself and others. All are agreed that regular exercise is to the brain worker a means of improving the quality of his mental output.

But it is worthy of notice that, more particularly

at the present time, whenever the preaching of the familiar and undisputed adage lays great stress on the *corpus sanum*, elements of revolt appear. The number of stories which have recently been published, describing life at a public school and deprecating the cult of games, is much less remarkable on account of any intrinsic excellence in the stories themselves, than because they seem to appeal to a large circle of sympathetic readers. It is not long since a rather dull tale of the doings of Oxford undergraduates achieved a distinct success. As the main purpose of the book appeared to be to criticize adversely a real or imaginary exponent of "muscular Christianity," it is difficult to escape the conclusion that quite a large number of people regards that wholesome product of the Victorian epoch with pronounced disfavour. It is clear, for example, that Mr. Shaw is one of them. "We agree," he says, "that we want superior mind, but we need not fall into the football club folly of counting on this as a product of superior body." Yet the football club may, if wisely directed, prove to be as useful a factor in social amelioration as the class-room. The protest of unreasoning prejudice is as evident in such criticisms as in the corresponding disposition to relegate all attempts to vindicate mind control to the domain of charlatanism. The determination that bodily prowess shall be enhanced by training and discipline is no ignoble aim. That the body is the chosen temple for the habitation of Eternal Strength and Wisdom is a belief rightly cherished by every devout Christian. Action and re-action govern the world of thought no less than the world of matter.

None the less, those who exalt mind as a remedial agent for bodily disability have one decided advantage over those who reverse the process. They can point to an end which is desired by an overwhelming majority of their fellows. No doubt, many will feel that it is not altogether an elevating or inspiring reflection that, in the words of a modern writer, "ages of faith, of romance, and of science are all driven at last to have but one prayer, Make me a healthy animal." That it represents the simple truth of the matter few would attempt to deny. Nor need it be a cause of discouragement or disillusion. The pagan world could not, it is true, get beyond the desire that the human body should minister to man's enjoyment. It was something that it should have paid a ready tribute to the worth of those other possessions which man might or might not carry to another world, but at least in this life increased in value as the physical powers waned. But by the healing ministry of the Son of God the "body of our humiliation" has been made holy for all time to come. The invasion of disease and the defilement of sin alike are alien to the purpose first disclosed on earth when Hope was born. To some it is given to pass through Gethsemane and Golgotha to a fuller life which disdains the trammels of the flesh. To all it is commanded that they "glorify God in their bodies" as well as in their souls.

Now the precise point to which this old world has come as it spins down the ringing grooves of change, is eminently favourable to the devotion of close attention to the whole subject. The terrific upheaval of the war is likely to give point and

definition to all the more or less vague gropings after the reality enshrined in "mind-cure" in which so many were already engaged. Among its pertinent results we may note the following :—

1. Dogmatism is at a discount, especially the dogmatism of the expert. There was no lack of prophets of Armageddon in the later years of the nineteenth or the early years of the present century. None, in so far as they condescended to detail, were justified by the event. There were plenty of confident doctrinaires, as the war proceeded, to lay down hard and fast rules, and to define with exact precision what turn of events was possible and what might safely be disregarded. Those who retained their hold on popular attention for the longest time were those who had made the fewest blunders. A high standard of administrative capacity, the power to take broad views, ready adaptability to changing conditions—these qualities were found in an abundance far exceeding general expectation. But they always seemed to be the direct outcome of a determination to succeed, not of long professional training. The expert had shown conclusively that proficiency in this or that arm could not be attained in less than two years of continuous practice. The man who came from the school or factory or workshop or counting-house proved that he was a match for the trained soldier in three months. In time a sort of "pragmatic" result came to be expected. "Impossibilities" ceased to be considered. The only certain test of truth, when the expert said one thing and necessity another, was the urgency of the occasion. *Possunt quia posse videntur*. If stout determination can

remove mountainous obstacles from the path of achievement in one field, why, it will be asked, should we limit the possibilities of its success too rigidly in another?

2. Many deeply rooted convictions, hitherto held with indefectible certitude, have undergone revision. The moral values which seemed capable of being appraised with the least difficulty call for a new assessment. Success, indeed, has never failed to secure apologists; and weakness and indecision stand self-convicted at the bar of contemporary opinion. When a *coup d'état* has effected its purpose it requires no great ingenuity to produce a host of plausible reasons why it was bound to happen. "Europe adjusts itself to a *fait accompli*, and so does the individual conscience," says George Eliot in an illuminating passage. There is nothing new in these rapid changes of front, bewildering as they often are. Matthew Arnold once accused British popular opinion, as represented by *The Times*, of having (in the Italian war of 1859) light-heartedly forsaken the attitude of contempt for theories, and "boxed the compass," until it came to approve and encourage the dreams of an idealist. Lord Acton would have us believe that hardly any atrocity will fail to win condonation from the historian, if only it succeeds in its object. "The strong man with the dagger," he tells us, "is followed by the weaker man with the sponge; first the criminal who slays, then the sophist who defends the slayer."

All this we knew. What is so disconcerting in its novelty is the discovery that qualities, in themselves apparently admirable, are not only inextricably mingled with others which are bad or indifferent,

but actually seem themselves to be made up of elements in which it is difficult to say whether the good or bad predominates. Intense love of country, diligent industry, the subordination of the interests of the individual to the well-being of the State—these must be accounted to be national characteristics of the very highest value. The German people possessed them in rich abundance; and as they increased and spread, there grew with them the rank weeds of intolerable arrogance, a national vanity so sensitive that an appeal to it was always certain of success, and an indifference to every ethical consideration without parallel in modern civilized communities. The political philosopher of the future, who keeps in mind the lessons of the war, will be forced to realize that, in dealing with such abstractions as patriotism, discipline, liberty, culture, he is not entitled to express an opinion on them until he has ascertained of what they are compounded and with what other aspects of conduct they are allied.

So, in like manner, in trying to understand the governance of the body by the mind, with all its varied possibilities, we shall not be content with some easy, hedonistic conclusion; but rather endeavour to envisage the ample truth that all this is part of a larger whole in which every activity of the soul, every process of purification, every insight into the shrouded mysteries of the unseen, must fulfil its allotted task in a world of visible imperfections which it is the splendid privilege of man to overcome.

3. It is thought that rules. We have here to deal with a process which extends far beyond

rationation. Many weary seers have supposed that, when one or other irrational bar to clear vision has been swept away, the golden age of a generation swayed by reason would give peace and contentment to the world. They have lived to acknowledge that the time is not yet. Man is continually hypnotizing himself into a belief that he proceeds slowly and carefully from accurate premise to logical conclusion, when, as a fact, he is advocating or discarding some principle which attracts or repels him by the operation of mental exercises with which reason is hardly in any way concerned. Religious persecution and the duel fell into disrepute, not because (though this has been seriously argued) men came to see that they proved nothing except that the persecutor or expert swordsman was for the moment stronger than his adversary, but because a rapidly growing number of persons of weight and influence heartily disliked the forcible repression of religious opinions or the arbitrament of the rapier in private quarrels. Mr. Kidd goes so far as to contend that all progress in human society is in its last analysis irrational. At any rate, if European thought had been strictly rational, the war which broke out in 1914 would not have taken place. Nothing could have been clearer than that the aggressors could in the mass achieve no tangible, ultimate advantage, even as the result of overwhelming victory. Yet it was by way of thought that the war came. Multitudes of German-speaking men and women had for more than thirty years consciously and unconsciously embraced and enlarged certain dominant ideas. The collective thought of a people, vulgarized by sentimentality,

vitiated by corruption, exalted by culture, coloured by self-love, hardened by habits of obedience, swept on, gathering momentum in its course, until it had become a tidal wave which threatened the very bulwarks of civilization. The concept of world-conquest is as old as human vanity. The ancient world paid homage to its conquerors, and moralized over the unreality of their dreams. Europe had known Frederick Barbarossa, Charles V, Louis XIV, Frederick the Great, Napoleon. Historians have discussed the extent to which one or other might be said to be the natural product of his age. But it has never been suggested that popular clamour for aggression drove them beyond the limits of their inclinations; unless indeed some monster of their own fashioning had usurped a tyrant's sway. When Louis Napoleon surrendered at Sedan, the courteous king of Prussia is said to have accepted his disclaimer of any desire for war, but added that "it was his Majesty's ministers who had created the opinion which rendered war inevitable." This was, of course, a diplomatic way of saying that things had come to such a pass in France that only by a successful war with Prussia could the Bonapartist dynasty be saved. This was true enough. But it was the disgrace of Queretaro and the failure of Ollivier to stem the tide of revolt, not any overwhelming desire on the part of Frenchmen to conquer Prussia, that enabled Bismarck to gain his ends. In modern Germany, the ruling classes sighed for fresh worlds to conquer hardly more aggressively than the bulk of the intelligent artisans, and rather less aggressively than the professional and trading classes. For the first

time in the world's history the immense power of the infective thought of millions, outstripping reason and overriding morals, stands revealed. Can we bend this elusive, dynamic force to the relief of the bodily distresses of mankind? That is the question to which this book will seek to furnish some kind of answer. It may or may not be held to be a satisfactory answer; but no one can now regard the question as futile or absurd.

The land which we survey from the mountain top is not necessarily a better dwelling-place than the wilderness or the country of oppression. It will prove to be very much what we choose to make it. Fair phrases and ardent hope will not bring in the golden age, but man's firm purpose of walking in the way of the two great commandments. The last penalties of war have yet to be paid through leaden years of chill discomfort, in which the promises of peace and progress may well seem to come no nearer to fulfilment. But it can hardly be doubted that the social sense has been awakened in thousands of those who have known the stress of uncertainty and the horrors of embittered war. A thoughtful writer of our day sees the development of this tendency, and is not unmindful of its dangers. "Nothing," he says, "is of more importance than the love of humanity as a whole. Many thinkers of the last and the present centuries make this the central demand, and indeed the one essential principle, alike of morals and religion. Indeed, this love of collective humanity, has, by a strange irony of fate, become the chief rival of Christianity. The old individualism of our love one to another, and in its idealized form of our love to God or

Christ, has been superseded by this wider and more general command of affection, 'Write me as one who loved his fellow-men' (CXIX, p. 295). To give to every British child a fair field of opportunity, to stimulate the enlargement of preventive medicine, until preventable disease has ceased to take its toll, to find the means of speeding an industrial progress which will not devour the health of the workers, these are some of the aims which will inform and inspire the work of consolidation. The world waits on the message of the prophets who are yet to come. But already it knows something of the silent mastery of mind. How it has been applied to physical betterment in past ages, and to what extent it may be regarded as the coadjutor of medical science in our own day, these are matters which, it is hoped, the following pages will enable the intelligent inquirer more fully to understand.

CHAPTER II

THE NYMPHOLEPTS OF PROGRESS

THE war apart—the far-reaching consequences of which it will be for our children to determine—there can be no serious question that the marvellous scientific progress of the nineteenth century has done far more than revolutionize occupation, leisure, transit and domestic economy. It has changed our whole attitude towards the matters which most closely concern us. The true educator of to-day who draws out from his pupils the best that their brains can furnish, is drawing out something of a quality appreciably different from the results of a like method at the time of the French Revolution. It is not easy to realize the magnitude of the change, because thought is more impressionable than language. Probably every one who reads Smollett, Addison or Evelyn for the first time is surprised at the apparently modern dress in which the views, opinions, tastes, of author or character are clothed. It is only after careful examination that he discovers that this only really applies to external trappings. The naked ideas are not the same.

And of all the physical sciences, medicine has (always under debt to her sisters who march at her side) developed to the most conspicuous extent. The reader of fair opportunities and adequate

information will appreciate this as readily as the professed student of medicine. Perhaps the tendency is rather to understate than to exaggerate the enlargement that has taken place. Few persons who have not made a special study of the history of the *ars medendi* know how comparatively recent are some of the processes most commonly employed and the helps to diagnosis and treatment which the modern practitioner with the least hesitation would pronounce to be indispensable. To take only a few instances: Surgical pathology, as a clear, codified system, hardly existed before 1800. Percussion, although mentioned at an earlier date, was first seriously practised by Corvisart about the time of Waterloo. 1819 is generally given as the date of the discovery of auscultation by Laennec. The compound microscope came into use about 1840, and the clinical thermometer ten years later. Still more recent are the ophthalmoscope and the laryngoscope. The cystoscope and the X-rays belong to yesterday. In surgery, the introduction of anæsthetics and asepsis has brought the art to such a state of perfection that there is (literally) no innermost recess of the human body into which under certain circumstances some surgeon is not prepared to find his way.

Is it to be wondered at that we should be dazzled by the splendour of this brilliant epoch, and assume, as though there could be no question about it, that we are at least as far in advance of Harvey as Harvey was beyond Hippocrates? Such a view is far from being ridiculous. Indeed it is in some measure true. But it ought to be examined closely, and in the examination we may hope to find matter

of interest which is strictly germane to the purpose of this book.

1. Medicine has become highly specialized. In this it does not stand alone. Art, science, commerce, even letters, all display the same tendency to proceed (in Spencerian phrase) "from homogeneity to heterogeneity." Man, the social animal, plods on in the wake of man, the physical animal. Medicine, it may be, shows the tendency in excess of other crafts; for, in the first place, a science which progresses only by the toilsome route of laborious research and hardly ever arrives at a result worth noting at a bound, lends itself very easily to differentiation; and in the second, it so happens that Mons. Volonté Générale vehemently desires what the blind forces of social evolution are quite ready to provide. The result is that those who specialize or are interested in any of the manifold branches into which modern medicine has ramified, find associations, periodicals, sections of more comprehensive societies, in some cases even hospitals and clinics, set aside for the advancement of that special subdivision. The gain which has accrued to medical knowledge as a result of all this specialization, more particularly in accuracy of diagnosis and the promotion of genuine research, it would be difficult to exaggerate. But it is as well not to be too complacent over it. As will presently be seen, the practical effects do not seem to be altogether commensurate with the efforts made. And there is a real danger lest medicine should lose the sense, not only of the necessary interdependence of the many aspects of the art of prevention and healing of physical ills, but of a close

and intimate relation to other sciences which influence and control both the individual and corporate life of the community. The task of harmonizing medicine, religion, philosophy and social science, very much as Ruskin tried to demonstrate the relation of painting, sculpture and architecture to religion, morals and even economics, and as Wagner in a measure succeeded in doing in the case of music, poetry, dancing, and acting, would be no light undertaking. But if the genius who is to accomplish it has not yet appeared, it is worth remarking that there is already evidence that the need is felt by men of large discernment. Dr. R. O. Moon's comparatively small volume, *The Relation of Medicine to Philosophy*, which appeared in 1909, is an excellent example of this tendency. Dr. Moon, with unconscious modesty, appears to think that it is mainly doctors who will be interested in his book. But in fact it appeals to many who are quite outside the medical profession. He asks for larger as opposed to merely "parochial" views; in the same way as historians are pleading for comprehensive treatment of the phenomena of action, and deprecating the time spent in discussing the exact colour of Robespierre's breeches when he went to the guillotine.

2. A yet more immediately practical question is whether, even along the lines of detailed specialization, the results are in all respects even encouraging. Let it be said at once that much of the popular complaint about "new diseases" is based on imperfect knowledge. Thus, Treves' discovery of the appendix as the site from which peritonitis usually spreads is a typical instance of a result

reached by patient investigation and of incalculable benefit to humanity. It is quite true that thirty years ago "we never heard of appendicitis." It would have been much better for us, or rather for our fathers, if we had. But we (or they) heard a great deal about peritonitis and knew how dangerous it was. In a few cases the cause was fairly evident. If a gastric or intestinal ulcer (as in enteric fever) ruptured into the peritoneal cavity, the all too common effect was generalized peritonitis, from which recovery was rare. In most cases, the cause could only be conjectured. It was commonly supposed to be an extension of inflammation from the small or large intestine. Treves started with the known anatomical fact that the blood supply to the vermiform appendix and its mesentery was poor. Post-mortem evidence soon convinced him that the appendix was at least involved in an overwhelming majority of the cases in which death from peritonitis had occurred. When clinical observation had made it clear that in many patients suffering from severe abdominal pain, there was pain, rigidity and tenderness over the site of the appendix, it was a fair inference that this was the *fons et origo malorum*, and that if the appendix could be removed in time the danger of resulting peritonitis would be done away. Hence, although we *do* "hear of appendicitis," as our ancestors did not, we "hear" very little of the "idiopathic" peritonitis which exacted a tolerably heavy tribute of premature deaths not half a century ago.

This, of course, is only one instance out of many which might be cited, and may be of use in helping us to remember that modern medical research has

been very far from barren in eminently practical benefits to suffering mankind.

But there is another side to the picture. Concrete instances are more easily focussed than general propositions. We may therefore turn to a modern theory closely resembling the theory of the relation of peritonitis to inflammation of the appendix, and almost as widely received—the theory that osteoarthritis is very commonly the result of “oral sepsis.” That this, after some seven or eight years’ trial, does not seem to have “found itself” would not *per se* be a fitting subject of reproach to medical science. Unproved and discarded conjectures must always lie in hapless disarray along the path of scientific research. What is disquieting is the reflection that the modern student accepts such teaching, and only surrenders it with great reluctance, partly because he has a wholesome veneration for the great Dr. X—— who always insisted on the extraction of the teeth of his arthritic patients, partly because (to speak candidly) his education has tended somewhat to narrow his mind, but mainly (and this is the crucial point) because the teaching sounds so extremely plausible. A man who to-day attempted to persuade a class of students that in order to cure arthritis (or any other malady) it was necessary, in the words of Marcellus Empiricus, “to pay attention to a falling star and to count as quickly as possible from its appearance to its disappearance,” would without much ceremony be hustled from his platform. Nor would he have any valid ground of complaint. But he might reasonably plead that there was quite as much to be said, so far as practical results went,

for the views of Marcellus as for the doctrine, still enunciated by many learned men, that the cause of arthritis is to be sought in a septic condition of the mouth. Yet, so firmly are we convinced that not merely some but all of the new matter introduced into the textbooks and commended to us as the fruit of specialized research is at any rate on the right (*because familiar*) lines, that such a plea would have about as much chance of acceptance as Mr. Norman Angell's attempts to convince the Junkers of the economic futility of aggressive war. We are amazed at the concepts formed by mediæval physicians and can hardly understand how intelligent and candid observers can have cherished such fantastic rubbish as though it was of the nature of axiomatic truth. We forget that it was in tune with the thought of their age, just as the idea that oral sepsis is a cause of arthritis is in tune with the thought of our own. Sir Leslie Stephen somewhere remarks that "in the intellectual stage at which hell seems a reasonable hypothesis, we cannot express our objection to murder without speaking in terms of hell fire." By their results alone can scientific theories be judged. If we accept those results on absurdly inadequate evidence we are intellectually lost, whether we live in the twentieth or the fourteenth century.

Now, this is not mere obscurantism. Nothing is further from the whole purpose of this book than to belittle research or throw doubt upon its ascertained successes. But it is of the highest importance that we should recognize the fact to which all social history testifies, that real and fruitful progress in knowledge in all departments of life depends upon

man's determination to see clearly and test adequately. So long as a new development is opposed, for no better reason than that it is unfamiliar, and another accepted because it happens to be in accord with contemporary practice, so long will the equipment of science be encumbered and her advance delayed. It was the attitude of mind which set up and maintained Star Chamber and the Courts of the Inquisition, not the tribunals themselves, that threatened liberty and fostered intellectual dishonesty. Huxley—than whom no more scrupulously fair controversialist ever lived—once asked his readers to “imagine that all our chairs of Astronomy had been founded in the fourteenth century, and that their incumbents were bound to sign Ptolemaic articles”; and drew a justifiably gloomy picture of the effects of such restrictions. It may, however, be doubted whether the signing of “Ptolemaic articles” would have made much difference. If the “incumbents” had been educated in an atmosphere which encouraged them to endorse conclusions of a certain shape or colour and to reject others, suspect in form or hue, their teaching would hardly have been more satisfactory, even if they had contrived to leave the articles unsigned. The age in which our lot is cast is ready enough to throw its missiles at the theological definitions which Huxley found so little to his taste. It almost seems as though as much moral courage was now needed to maintain a “traditional” view in theology as would have been required a century ago to maintain any other. In medicine the strongholds of conservatism are in a constant state of re-organization; but the new departments

“carry on” very much as did those for which they have been substituted. Teaching which is not merely new but apparently heretical encounters a reception akin to that which greeted Harvey’s audacious questionings of Galen. On the other hand, the doctrine that the span of human life may be sensibly prolonged by a diet of sour milk, so conformable with the weightiest utterances of medical congresses any time during the last half-century, is accepted with a grave deference which the immediate disciples of Paracelsus could hardly have surpassed.

A sane pragmatism is wanted if medicine is to fulfil the high office which the modern world is ready to charge her to undertake. If a system “works,” she must try to find a place for it within her own confine. The Salvation Army many years ago declined to allow all the catchy, rollicking tunes beloved of the multitude “to be used only in the Devil’s service,” and boldly wedded many of them to their hymns. Medical science, in like manner, will not wisely be deterred from using methods of possible advantage to humanity, merely because they are tarnished with charlatanism.

“Remember,” said Dr. Rush, in the course of an address to medical students, “how many of our most useful remedies have been discovered by quacks. Do not be afraid, therefore, of conversing with them, and of profiting by their ignorance and temerity. Medicine has its Pharisees as well as religion; but the spirit of this sect is as unfriendly to the advancement of Medicine as it is to Christian charity.”

More recently, an influential medical paper has in the course of a weighty article voiced a similar view :

“So long as conditions with which medicine has failed to cope are cured by spiritual agencies . . . so long will recourse be had to them by sufferers. To say that the phenomena are hysterical and that the cures are wrought by thaumaturgic display, is simply to confess the impotence of medicine and to cover up our ignorance by big-sounding words. After all, medicine, even at the present day, is largely groping in the dark. This being the case, our attitude towards anything that promises relief, which is not obtainable by following the doctrines of the schools, should be one of sympathetic readiness to welcome help from whatever quarter it may come, rather than the self-complacency which asks, ‘Can any good come out of Nazareth?’” (CXIV, 1912, p. 1027).

If, again, some “practice,” though rich with the perfume of unimpeachable orthodoxy, and in harmony with that stage of progress in which we find ourselves, does not “work,” she will resolutely let it go. And she will claim her place in the domain of ordered thought; that so by force of great endowment she may command that which else may dull her purpose and obscure her vision.

And is there nothing more? Let us listen for a moment, before we pass on, to the words of a true prophet of our time:—

“Nowadays, when every one is proclaiming his ‘inalienable rights,’ and with a loud voice asserting his claim on life, the other question, as to who has a claim on us, is often forgotten. Yet it is the more important, and even the more practical question of the two. . . . It is not in any pride or self-sufficiency that a man can ever achieve the highest greatness. The man may not know what has happened when his work leaps thus towards the ideal of beauty or truth or perfection. Really it is the claim of God, who stoops over his workman and whispers to his soul, ‘Thou art mine’” (CXIX, p. 289).

Truly we are the trustees of a heritage which is greater than we know.

CHAPTER III

THE WISDOM OF OUR ANCESTORS

IN this chapter it is proposed to show, not by a detailed examination of events and schools of thought—which would require a series of closely printed volumes—but by a selection of typical instances, how the old world grappled with the problems of health and disease. It will appear that in each age, men unconsciously reproduced in their teaching the ideas then dominant, that what may be regarded as the two methods, the material and the psychical, are sometimes frankly opposed, sometimes intertwined, and that the “pragmatic” insistence on practical results arises from a wholly unexpected source.

I. The Age of Pure Speculation

The first teacher who applied the observation of obvious physiological facts to the determination of the motive forces which controlled the universe was Anaximenes, who lived in the middle part of the sixth century B.C. He believed that air was the ultimate substance from which everything was made, and by which everything continued to exist. This was, of course, in opposition to the earlier

teaching of Thales, who thought that water was the origin both of living and dead matter. Anaximenes was quite sure that the world breathed no less than man. Whether he conceived of consciousness, reason, etc., as equally an emanation of air is not quite clear. Probably he did; for the monistic tendency was still exceedingly strong, and dualistic views of an essential difference between mind and matter had not yet taken any clearly defined shape.

Of subsequent searchers before the appearance of Hippocrates perhaps the most interesting is Heraclitus of Ephesus (c. 500 B.C.), inasmuch as his guesses brought him almost within view of what we now hold to be ascertained facts. Thus, he taught that man was composed of earth, water, and fire, and that the greatest of these was fire. If for earth be substituted protoplasm and for fire heat, we have a compendious account of the physiology of a human being with which the most up-to-date scientist would hardly quarrel. Moreover his "fire" was a constantly changing element. Sometimes it was in the ascendant, as when bodily activity was most evident; sometimes it was dominated by the other elements, as in sleep. And earth could become fire and fire earth. We almost expect to hear Heraclitus go on to a learned disquisition upon "food values" and "calories." On the question of the nature of mind, as such, he does not commit himself; but it seems probable that he, as well as Anaximenes, would have regarded it as a derivation from his ultimates. A yet more striking anticipation is to be found in his doctrine of "continuous flux." He actually seems to have conceived all matter to be essentially a form of energy, or at any

rate a mode of motion. The devout Hegelian who claims Heraclitus as one of the elect does not adumbrate an entirely baseless theory.

In the system established by Pythagoras and carried forward in many and varied directions by his numerous followers, the strictly religious element with which all primitive medicine is allied reappears. It would hardly be an exaggeration to say that the treatment of disease among the Pythagoreans resolved itself into long mystical expositions, especially on anything relating to numbers. Charms and incantations do not seem to have been used, not, at least, until many years after the date of the founder. Surgery was discredited, and ordinary internal or external medicaments were not greatly in favour. The concept of the mind as exercising direct control over the body in health or disease had not yet appeared above the horizon.

But about the middle of the fifth century B.C., we have the simultaneous appearance of two teachers who first brought into prominence—the one, scientific research on the lines with which the modern world is acquainted, the other the paramount importance of mind.

The first of these was Empedocles of Agrigentum. He himself observed and impressed the importance of observation on others. Thus he described the mechanism of the labyrinth of the ear, having learnt it through the dissection of animals. He also appears to have discovered that in plants the two sexes are combined, and proceeded in true scientific fashion to try to formulate some convincing account of the origin of sexual differentiation.

Presumably, the action of the Pythagorean "fire" did not satisfy him; and his conclusion was that the separation of the sexes had come about through the operation of the passion of hate. Hate, according to Empedocles, caused its antithesis, love, to develop a corresponding activity. Hence, whenever it glowed with unusual fervour, some advance was made in the opposing force; until in time the attributes of each sex became highly specialized and had a separate existence in independent bodies. Here again the voice is Jacob's voice, but the hands are the hands of Esau. The phrasing belongs to the period in which the prophet "flourished"; but the general line of his teaching makes straight for essentially modern views on action and reaction, toxins and anti-toxins, injury and repair.

The second of the two teachers was Anaxagoras of Clazomenos. In the course of his far-reaching speculations, he examined and eventually rejected the theory of Empedocles about the results of the activities of love and hate. Anaxagoras regarded mind as the motive power in all bodily changes, probably in every play of natural forces. The "nous" of Anaxagoras, it should be explained, does not seem to be the mind of God and not entirely the mind of man. Living in the age in which his lot was cast, he inevitably conceives of "nous" as a form of matter, endowed with specific properties, the exact nature of which is not known. It is probable that Aristotle's famous dictum that the pre-Socratic thinkers could only conceive of entities as substances of which the senses were able to take account is too sweeping a generalization, but it is certainly true that at this time

the concept of the existence of the non-spatial and non-extended was not so much denied as not yet encompassed. If even numbers were concrete realities, there was no reason why mind should not be relegated to the same category.

So at the end of the period which we may regard as the era of pure speculation, mind at last appears as the hidden power which controls (*inter alia*) man's mortal frame.

II. From Hippocrates to Galen

This is (roughly) a period of 600 years. As such it overlaps by the space of about a century the beginnings of the next era to which our attention will be directed.

Strangely enough, it was, from almost any point of view, a somewhat barren period. At either extremity stands an imposing figure whose reputation is certainly not diminished as age succeeds to age. In the interval there is comparatively little to show of anything which can be regarded as a real advance either in medicine proper or in the phases of thought by which contemporary science must always be influenced. Let us glance at the salient features of this rather confused epoch.

1. The important point to grasp in respect of Hippocrates himself is that he does not seem to have been conscious that he was doing anything more than pursue the practice of his profession. He added observation to observation, and busied himself with the details of his craft as the teaching of his predecessors or his own researches had made them known to him. There is plenty of reference

to contemporary philosophy scattered among the voluminous records which represent a portion of his own labours and those of his immediate followers. But neither he nor they disclose any suspicion that medicine was in danger of being choked by the disputings of rival systems of philosophy. On the contrary, the physician, who was also a philosopher and therefore "a godlike man," was a character to be imitated and admired.

2. On the death of Hippocrates a time of declension in speculation and practical ethics set in. Eventually the Dogmatists emerge at Alexandria, revering Plato almost as deeply as they revered Hippocrates, and adding to their "humoral" theories of disease every physiological tenet which they could find in the *Timæus*, a dialogue which many of them must have known nearly by heart. Thus, the sensory nerve terminals are found in the heart because Plato said so. For the same reason tears are produced by the union of fire and water, and the sensations of white and black respectively by dilatation and contraction of the "particles of sight." This kind of thing seems to have gone on until the later Dogmatists veered completely round and began to support the materialistic teaching of the Stoics. When talking is allowed to take the place of honest work, the result is usually an intellectual morass.

3. The Empirics were a little more fruitful, because they really did discover some useful, though they cannot be called rational, methods of treatment. Sick of the eternal sophistry of the Dogmatists, they elaborately argued that all argument was quite useless. At this time, the expanding

commerce of Egypt resulted in the importation into Alexandria of many new and potent drugs. Pharmacology rapidly became a fashionable craze. Mithridates, king of Pontus, is said to have taken a poison and an antidote every day. Perhaps his physicians did not lead him quite straight, for he appears to have been none the worse for his experiments. Or possibly in the privacy of an inner room he tried the more revengeful preparations on the cat—like Tom Sawyer. But in any case, experiment and discovery of specifics became the order of the day. This disposition was undoubtedly helped forward by the interesting but negative teaching of Pyrrho. If perception only makes us aware of things as they appear, not as they are, and if we have no other means of knowing anything about them, it is clear that all speculation is a waste of time. This happy conclusion was applied with relentless vigour to every department of learning. In medicine, anatomy, physiology and pathology were all regarded as profitless. As has been well said, "They did not want to know how we digest, but what is digestible." The net result would have been a time of something like complete stagnation, had it not been for the work of a handful of men of commanding ability, of whom the most conspicuous were Erasistratus and Herophilus. These men cannot be classed as belonging to any particular "school." Probably they felt an equal degree of contempt for Dogmatists and Empirics. They had innumerable disciples and may be said to have founded schools of their own. Such men did not disdain research. Indeed we seem to be breathing a very familiar atmosphere when we

find the "research defence" protagonists claiming that, if vivisection is for the public good, condemned criminals (there is no record of the use of rabbits and guinea-pigs) ought to be provided; while the anti-vivisectionists argued that such practices were cruel and their results fallacious. Moreover, by the beginning of the first century B.C. specialists in obstetrics, gynæcology and ophthalmology were recognized social phenomena.

4. The Methodists of Rome who represented the official medical fraternity up to the time of the rise of Galen had theories of their own. With them we are not immediately concerned. But it is of the utmost importance to note that, while it would be wholly unjust to write down Asclepiades and his more distinguished disciples as in any sense reactionaries, yet it is true that the state of "orthodox" medicine in Rome at the beginning of the Christian era encouraged belief in the efficacy of methods and the value of teaching which were not openly acknowledged by the professed physicians. Here once more history is only repeating itself in London and New York to-day. It will be interesting to examine this in some detail.

(i) Under the influence of Cato, the cry for a return to the simple life was heard on all sides. It is not improbable that it was most vociferous in the case of persons who merely wanted the sensation of a new "thrill" to stimulate their jaded appetites. Simple remedies for simple diseases, not elaborate attempts to compensate for the inevitable consequences of an overfed and artificial existence, were the requisites of the hour. Men began to sigh after the fragrant days of old when there were no recog-

nised physicians, but each man, in true patriarchal fashion, looked after the health of his family and his slaves, applying, according to his inclination, a cabbage or a broken reed or an incantation. The strictures of Socrates in the *Republic* on the later tendencies of medicine, his indignant question whether it "was not a disgrace to compel the sons of Æsculapius to find names for diseases, such as flatulence and catarrh, just because by their lives of indolence and luxury men fill themselves with waters and winds as if their bodies were a marsh"—such condemnations were as readily and widely accepted as the diatribes of Savonarola against the excesses of the Florentines of the fifteenth century. From the echoings of specious generalizations of the type of "Everybody eats too much," "Most ailments are imaginary," to meek submission to the claims of any fad or sufficiently bizarre nostrum is, as all experience shows, but a step.

(ii) Magic of all kinds was intensely popular. Professor Dill tells us that "The belief in the arts of magic, divination, and astrology was probably the most living and energetic force in the pagan sentiment of the time . . . and, in its strange terrors and seductions, perpetuated the power of heathenism far into the Christian ages" (CXXI, p. 41). Shady adventurers competed with half-crazy herbalists and mystery-mongers from the East in the sale of potions and philtres. Cæsar extended his patronage to some persuasive sorcerers, while others, suspected of treasonable proclivities, were ruthlessly hunted down and killed; and it may be assumed that the ancient and time-honoured oracles had endured a considerable period of de-

pression before they were officially declared to be dumb.

(iii) All this time, the sanatoria of the Asclepiadæ, to which reference has already been made, were frequented by large numbers, more especially of the cultured classes. It was towards the end of the third century B.C. that the cult of Æsculapius was introduced into Rome. It has been computed that at the dawn of the Christian era there must have been at least 800 shrines of the healing god, to which devotees flocked in larger or lesser crowds, scattered about Asia Minor, Greece and the Islands, and on Italian soil. The treatment consisted of a judicious blending of dieting, bathing, and bleeding with frank and open "suggestion." Through these means the god gave to the votary the gift of restored health, always reserving to himself the right to intervene in more direct fashion. How strong was the faith-healing element is evident from the account of the methods employed, given by Aristeides in his *Sacred Orations*. Aristeides claimed to have been healed of an illness from which he had suffered during seventeen years. He evidently thought that the procedure of the Deity whose benefits he so warmly extolled was somewhat arbitrary. Thus :—

"He makes one man drink gypsum, another hemlock, while another has to strip and wash in cold water, when you would think he needed heat. . . . He has stopped catarrh and chills by river and sea bathing; he has cured prostration with long walks; when I have been without food for some time he has added purging; and when I have been unable to breathe, I have been told to read and write."

But however high-handed the proceedings of

the priests of Æsculapius were found to be, they appealed to persons of character and refinement. The backbone of Roman Society in this age of drift and decadence seems to have been represented by a type not unlike the English public school product of fifty years ago. Their mental outlook was fresh and wholesome; their opinions sane and balanced; their aims carried them along a decorous and not very devious tacking between rational conservatism and mild reforming zeal; their spiritual craving was satisfied, not by the inspiration of "Arnold's manly piety," but by an attachment to the essentials of the old Republican religion as interpreted in the light of the Epicurean philosophy. They made up a class which was probably the cleanest and strongest thing in Rome. It was to them pre-eminently that the dignified ritual of the priests of Æsculapius, with its genuine love of order and beauty and its mingling of auto-suggestion and trustful devotion, made the strongest appeal. Certainly the "faith-healers" of that period might fairly have claimed that they numbered among their clientèle many whom not even the most determined sceptic could have dismissed as neuropaths or valetudinarians.

III. The Pragmatists

When the distracted mother takes a wailing child, tortured with some irritating skin condition, to the skin department of St. Cuthbert's Hospital, she will probably obtain for the child the best treatment which modern scientific medicine can offer. Probably she will also acquire some know-

ledge, however imperfectly it may be assimilated, of the nature of the malady from which the child is suffering. But, apart from a few encouraging words, she will not hear much which can be taken to be a promise of complete recovery. And, as the candid Dr. Leo Schuzmacher put it, "That is what every one wants from a doctor, isn't it?"

When the same distracted mother turns to the advertisement columns of the *Weekly Oracle*, she finds an illustrated testimonial from the grateful parent of Gladys Ridding, from which she gathers that Gladys was afflicted with the same, or nearly the same, condition as her own child, but now, having had the benefit of one box of Dr. Thompson's world-renowned Paniatric Ointment, is quite well again. This, she is given to understand, is only one, selected from many thousands of unsolicited testimonials, all testifying to the marvellous efficacy of a specific which all the principal chemists are guaranteed to be willing to supply at the very moderate price of 1s. 1½d.

It is, of course, not to be inferred that the pragmatic method is followed only by the vendors of patented preparations who advertise in the *Weekly Oracle*. "Published cases" are a commonplace in the treatises of the most orthodox practitioners. Several of the instances of remarkable recovery which will be found cited later in this volume are taken from sources which the Grand Inquisitors, whose anxious task it is to preserve in purity and purge from unqualified defilement the "paratheke" of British Medicine, appear to regard with tolerance or approval. But, as a general statement, it may be said that it is as clear as it is regrettable that

stress is laid on the vital point of alleged or ascertained results in inverse ratio to the repute in which is held the means employed.

In the age which we are now considering, medical pragmatism occupies a position which, while up to a point analogous, is in many respects dissimilar. There are three main varieties :—

(1) THE ASCLEPIADÆ

The Temples of Æsculapius continued to be the resort of the afflicted until well on into the Christian era. A complete and trustworthy account of the practice followed in the early Empire is to be found in "Marius." This admirable description may serve as a corrective in the case of any who have been misled into taking seriously the coarse and clumsy witticisms of Aristophanes. As time went on, "material means" began to occupy a more settled place in the regular routine ; but the direction of the mental outlook of the sufferers and the encouragement to rely on dream therapy or "incubation" (wherein the god himself communed with the votary) remained as the principal feature. The *Tholos*, or well, at which water-drinking took place, and the *Abaton*, a caravanserai attached to the Temple for the lodgment of the patients, seem invariably to have been found. Usually there was provision for bathing in a stream or in the sea. The chief priest, or Hierophant, was commonly (but not necessarily) a physician. Cures already wrought were brought before the attention of visitors by inscriptions on *stelæ* (or stone slabs). Some of these are of the nature of undisguised

suggestion. Thus a certain lame man, Nikanor, was sitting wide awake; a mischievous urchin ran off with his crutch, whereupon, says the inscription, "Nikanor got up, pursued him, and so was cured." A barren woman was in her dreams visited by two of the snakes sacred to the god, and straightway became pregnant. But in many cases the action was much more direct. A spear-head was extracted from the face in one instance, and in another an arrow-head from the lungs. This was presumably effected by human intervention under divine guidance. One inscription asserts that a successful laparotomy was performed and the wound duly stitched and healed before the departure of the patient. It is as though the priests of Æsculapius were announcing to the sick, "You will hear plenty of learned dissertations on the nature of every variety of malady in the medical schools of Rome or Alexandria. Come to us and we will restore you to health."

(2) THE EARLIER CHRISTIAN SHRINES

The following brief, but strictly accurate, account of the manner in which the Christian Faith superseded the Æsculapian cult is taken from an admirable article in the *British Medical Journal*, of June 8, 1910. It will be noticed that free advertisement of cures is throughout the dominating feature:—

"The old gods were gradually supplanted by Christian saints. Temples were replaced by churches, where Christ was worshipped as the Healer, who did His beneficent work through the agency of His saints. Districts had their special patrons, and their shrines vied with each other in

popularity. Incubation continued, and can be traced throughout Europe, Asia Minor, and Egypt. The method of incubation remained much the same as in the pagan temples. The patient had first to go through a course of vigils, prayer, and fasting. This preliminary spiritual purification was gone through at the tomb or before the image of a saint. In this way the patient was brought to a state of mind and body most suitable for the operation of hypnotism and self-suggestion. The patient was sometimes cured in a vision ; either an operation was performed by the saint, or the disease was cured by the laying on of a healing hand. In other cases the saint appeared in a dream and gave directions for a cure, prescribing a certain course of treatment. Sometimes cure was wrought instantaneously, as at Lourdes, by the mere presence of the patient in the holy place. There is a striking parallel to the surgical cures attributed to Asklepios in the case of the German Emperor Henry II, of whom it is told that in 1041, being in sore suffering from stone in the bladder which the doctors could not relieve, he betook himself to the famous monastery of Monte Cassino. There he prayed fervently and St. Benedict appeared to him in a dream, and with a surgeon's knife (*ferro medicinali*) cut into the bladder—apparently by the suprapubic route—extracted the stone, placed it in the King's hand, and forthwith healed the wound. In several of the cures recorded at Epidaurus it is mentioned that the stone, spear-head, or other body removed was found in the patient's hand when he awoke. Henry told the story to Benedict VIII, who thereupon crowned him Emperor. The Pope himself gives a somewhat different version in a letter, in which he says that Henry had been troubled with doubts whether St. Benedict was actually buried at Monte Cassino. 'Not being fully asleep from pain by which he was grievously afflicted, nor yet fully awake, the most Blessed Father Benedict appeared to him, and asked where his pain was. When he had fully explained it, the most blessed Benedict said, "I know thou hast hitherto doubted whether I rest here, but this shall be a sign to thee that my body and that of my sister (St. Scholastica) are in this place. When thou arisest this day thou shalt pass three large stones *in egestione*

urinæ tuæ, and thenceforth shalt be free from pain." In the morning the monarch told the story to the brethren, showed the three stones of which he had got rid.'

"The general character of the diseases cured at the Christian shrines is the same as that given in the pagan records. The accounts are meagre, but the prominence of lameness, blindness, and paralysis is striking. A special feature of Christian churches was the cure of lunacy and other nervous diseases, among which various forms of epilepsy are conspicuous.

"The casting out of devils was a common subject with painters employed to decorate churches under the patronage of special saints ; how closely some of the greatest Italian artists followed nature in this matter is well explained by Dr. Paul Riches in his copiously illustrated work, *L'Art et la médecine*. The demoniacs lived in the churches, where the rite of exorcism was performed on them every day. Sufferers from various diseases also took up their abode in a church, it might be for months or even years. Such a system of resident patients implies the maintenance of a large establishment. Hospices and baths adjoining the churches are frequently mentioned in the narratives, and great crowds came to invoke the saints, filling the hospices and sacred buildings.

"The healing saints were mostly general practitioners ; but many were specialists, as St. Lazarus for leprosy, St. Roch for plague, St. Raynald for diseases of the eye and skin, St. Dodon for rheumatism, and so forth. Sometimes the attribution had its origin, as in the case of St. Lazarus, in the fact that the saint had suffered from the disease which he cured ; sometimes, as in that of St. Roch, from his having while alive shown particular zeal in tending sufferers, often from some accidental circumstance in a resemblance between his name and the disease or the part affected.

"Miracles were regarded as a test of the influence with the Almighty possessed by the saints, and national and regional jealousies naturally led to the growth of legends. An attempt to authenticate miracles has for some centuries been made in the act of canonization, where the *advocatus diaboli* plays the part of the historical critic."

As an instance of the more "sensational" cures alleged to have taken place, the two following cases, of special interest owing to the wealth of detail which appears in the narrative, may be quoted. Both occurred in the early days of pilgrimage to the shrine of Thomas à Becket.

In 1173, the year after à Becket's murder, a farmer named Ailward had a dispute with a man who was alleged to be in his debt. Possibly in order to get rid of a troublesome creditor, the debtor obtained Ailward's arrest on the charge of theft, and the unhappy man was thrown into prison and after some weeks was brought before the justices at Leighton Buzzard. The latter appear to have treated him harshly, and on paltry evidence condemned him to the loss of his eyes. These were duly excised. Ten days afterwards St. Thomas appeared to Ailward and informed him that if he presented himself with a candle at the altar of Our Lady in Bedford Parish Church, and believed in his heart that God was able and willing to effect a cure, his eyes would be restored. Ailward related the vision, announced his firm belief in the coming restoration of sight, and went to Bedford Church at the appointed time, accompanied by crowds of the townspeople, eager to see the promised miracle. After he had prayed, the bandages were removed from the empty eye-sockets, and "in the hollows two small glittering spots were seen, the size of the eyes of a small bird," with which Ailward pronounced that he could see. Not unnaturally, he proposed to make his way to Canterbury, there to render thanks for this miraculous recovery. On his way through London the

Bishop, who had heard the story, detained him while he made inquiries. As a result of these, he got sworn statements from the Mayor and Burgesses of Bedford which put the completeness of the mutilation beyond question.

Three years later precisely the same miracle occurred; only this time it was even better authenticated. A youth named Rogers grew two new eyes after a promise to this effect had been given to him by St. Thomas in a vision. As in the previous case the eyes were small—"modicæ quantitatis"—but he could see perfectly with them. In order that there should be no possible mistake about it this time, the Bishop of Durham took the oaths of the executioners and of persons who had seen the mutilation done. Rogers also went to Canterbury to return thanks. While there he met, quite by accident, the judge who had condemned him. The latter remembered the case perfectly. He had been interested in the boy and observed him closely. He was now able to swear that the eyes which he now saw (apparently by this time they had reached their normal size) were different in form and colour from those which had been cut out by the executioner in Durham.

At this point it may be profitable to inquire whether it is reasonably probable that any definite conclusion can be reached in respect of the mass of records of miraculous happenings (including a high proportion of cases of restoration to life or health) contained in the vast literature of hagiology. We shall hardly be able to do much more than clear our minds; but even that may be of some value.

(i) We may begin by ruling out some inadmissible assumptions.

(A) That "miracles do not happen" was asserted by Renan and Matthew Arnold, also by the Rev. Robert Elsmere. Not dissimilar were the views of men in the enlightened sixties who, as Mr. Lecky has told us, received "an account of a miracle taking place in their own day, with an absolute and even derisive incredulity which dispenses with all examination of the evidence. Although they may be entirely unable to give a satisfactory explanation of some phenomena that have taken place, they never on that account dream of ascribing them to supernatural agency, such an hypothesis being, as they believe, altogether beyond the range of reasonable discussion" (II, p. 1). Mr. Froude, writing in 1877, is quite as confident. "Miracles," he says, "come when they are needed. They come not of fraud, but they come of an impassioned credulity which creates what it is determined to find." Later on in the same essay he feels that "there is no occasion to pursue into further details the history of this extraordinary alliance between religion and lying," and roundly states that "the claims of the Church to spiritual supremacy were made to rest on falsehood, whether unconscious or deliberate" (III, vol. iv, pp. 179, 201).

Such dogmatism is sadly discounted to-day. The war has only hastened a process which was already in operation—of which indeed Bagehot was conscious when he said with such singular prescience that we were rapidly approaching a time "when everything would be thrown on the table for discussion." Our attitude towards records

of the miraculous will be sympathetic or critical according to temperament, but it is hardly likely to be an attitude of cold and blank negation.

(B) We must be exceedingly careful lest we commit ourselves to arbitrary and quite unscientific limitations in the matter of remarkable cures. In a book entitled *Body and Soul*, published in 1910, the Rev. P. Dearmer, D.D., writes as follows :

“ We assert the principle that God acts through his own laws ; and if we read that an amputated limb had grown again we should at once discredit the whole source from which such a story had come. Charcot bears a high, unconscious testimony to the accuracy and good faith of the ancient records of miraculous healing when he points out that they do not contain such occurrences. We know that grace can assist the undermined to succeed when otherwise it would have failed ; but it cannot . . . act against the laws of nature ” (IV, p. 90).

This is an astonishing pronouncement. In the first place, if Charcot did say what is imputed to him, he was strangely misinformed. There is a considerable number of such cases recorded. It so happens that the amount of contemporary evidence which is called in support of them (though at this distance of time it is impossible to gauge its exact value) is unusually large. Is it possible that Dr. Dearmer has never heard of Our Lady of the Pillar at Saragossa, and is he really unaware that the growth of a new leg after amputation in the case of a devout believer at that shrine is one of the very best authenticated miracles in history ?

But next, if we are to dismiss all cases, however amply they may be buttressed by apparently convincing proof, in which parts of the body, once

lost, are restored to the believer, on the ground that they are "against the laws of nature" and therefore could not have happened, it would be instructive to know at what point the line is to be drawn. As an instance of a cure which, it must be supposed, Dr. Dearmer believes to have taken place, let us take the case of the man with the withered hand, and put the two processes side by side. In the one case from the stump (let us say) at the wrist, new bone, muscles, tendons, blood vessels, nerves, etc., grow out and eventually a new hand is formed. In the other, scar tissue is taken up over a large tract, new cells of the original tissues which had been destroyed when the scar tissue was laid down burst forth in great abundance from some storage place which no anatomist has yet discovered, and within a few seconds a withered limb is replaced by a perfectly sound limb. Dr. Dearmer may be quite right, but he will himself allow that on this point he has here been a little elliptical. For the benefit of those whose imaginative faculties are not quite so active as his own, will he kindly explain why one is impossible and not the other?

Almost as curious a limitation of (*ex hypothesi*) miraculous healing was propounded by a recent writer in some articles in the *Commonwealth*. These described a conversation between "A Doctor, a Layman and a Priest" with the evident intention of showing how a sceptical practitioner was won over by the sweet reasonableness of the other two to the belief that perhaps there might be something in "Spiritual Healing" after all. Intellectually, he seems to have been one of the weaker brethren,

for, towards the end of their talk (when it is possible that he was getting a little tired) the "layman" declares in a somewhat oracular manner that:—

"Normally, death comes to pass without any prelude of sickness or disease of any kind"; to which our medical friend replies, "You have opened up a whole new field of thought to me."

He certainly had.

Still, in spite of minor defects, the discussion was smooth and stimulating; and in the course of it we come to the following arresting passage:—

"After a minute's pause the Doctor returned to the attack.

"'Well, but after all, your spiritual healing, whatever it may accomplish in the region of functional disease, will not eradicate a definite organic disease of bacterial origin—nor mend a broken leg either.'

"The Layman laughed. 'That's precisely what one of the doctors contributing to the book I mentioned just now said. Spiritual Healing set a broken leg! No! nor build a house. The one is as much a mechanical operation as the other. You don't seriously put that proposition to me. But as to the cure of organic disease I have said already that I know of two or three such cases; and they are authenticated beyond question. If,' he went on earnestly, 'if you admit at all the existence of such a power as that conveyed in Spiritual Healing, why should you limit its operations in the healing of disease?'" (LVII, p. 150).

The only possible answer seems to be, Why indeed? But it is probable that the reader will be inclined to put the more obvious question, Why should the powers of "Spiritual Healing" be limited to "non-mechanical operations?" For if "Spiritual Healing" must decline to compete with scientific

medicine or surgery in the performance of "mechanical operations," the good work must clearly be restricted within bounds which would hardly be acknowledged by most of those who engage in it. For instance, in the *Healer* for November, 1908, there is a statement to the effect that a "lady's maid was cured of rupture" by the ministrations of "a healer." Now whether this lady's maid was cured of rupture, or whether ladies' maids are commonly cured of rupture by "Spiritual Healing," can only be determined by full investigation. But it would be difficult to imagine anything more "mechanical" than a radical cure of hernia as effected by modern surgery. Without going into the details of the various operations employed, it will be sufficient to say that they all aim at sewing one strong piece of fibrous tissue to another strong piece of fibrous tissue. In suitable cases these operations are eminently satisfactory. But if it is absurd to suppose that Spiritual Healing could "set a broken leg" (i.e., bring the two broken ends into a correct position and keep them there), it really is not easy to see why it should not be equally absurd to think that a Spiritual Healer could "cure a rupture." Moreover, if all cases in which the recognized scientific method of treatment is "mechanical" are to be set aside as beyond the range of Spiritual Healing, it is clear that we must first be informed of the exact point at which the line between what is mechanical and what is non-mechanical is to be drawn. As a matter of fact, it would be difficult to say what process of surgical and even of medical treatment could not be described as being in the last analysis "mechani-

cal." Our hesitation in so speaking of such a well-known process as the action of quinine on the protozoon of malaria is due to obvious gaps in our present information. Did we know everything, there can be little doubt that it would appear quite as "mechanical" as the removal of rust by the action of paraffin.

(C) Equally fallacious is the contention, not infrequently advanced, that there is no real distinction between "functional" and "organic" disease, and that miracles of healing (including those recorded in the New Testament) were, whether the disease was of a functional or organic variety, so many examples of the efficacy of treatment by suggestion. This remarkable apologetic deserves to be considered in some detail.

First. It is, of course, perfectly true that no hard and fast line can be drawn between functional and organic disease. In all sciences, men are ready to lay hold of convenient terms, and use them without considering their exact connotations. In the rough and tumble of practical work when experts are dealing with experts, there is no serious objection to this, because subconsciously the limitations are always taken for granted. The mischief begins when the expert uses the same terms in giving explanations to the amateur, and forgets that the term cannot carry in the mind of the amateur the same meaning that it has for him.

Thus, to be quite exact, lobar pneumonia is certainly an "organic" disease. Clinical experience knows only too well what terrific organic changes of tissue sometimes take place in this

condition. But it is a condition which always makes for resolution. That is to say, if the virulence of the infection is not too high and the resisting power inherent in the body is not too much reduced, resolution will take place and under favourable conditions and with wise guidance there will be complete recovery. Now a process of resolution which is (so to speak) halting may be assisted in many ways. Every practitioner has known cases in which (so far as human reason and experience could be trusted) assistance at the right moment saved the patient's life. That suggestion in one of its many forms has often rendered this assistance is practically certain. All that it actually did was—as in the parallel case of strychnine or brandy administered at the right moment—to stimulate a process of resolution which had already begun. None the less, if it makes the difference between life and death to the patient, it is clear that in this sense suggestion not only may, but not infrequently does “cure organic disease.”

But when a pathologist speaks of “organic disease,” what he usually means is a disease which causes a *permanent* organic change in the tissues. Sometimes, as in the case of malignant tumours and some blood diseases, the exact nature of which is still obscure, notwithstanding the immense amount of research which has been expended on them, the justification for regarding the changes as permanent is largely empirical observation. We do not really know why a pyloric cancer should be malignant and why, if it cannot be removed, it should in ninety-nine cases out of 100 destroy life. Nor do we know why in spleno-medullary leukæmia

the spleen should in about 85 per cent. of cases become slowly larger and larger in spite of everything we can do until death supervenes.

But far more often "organic disease" means not merely permanent but "*progressive*" organic disease. Let us try to understand the meaning of this term.

At the root of all pathology are the phenomena of inflammation and repair. To a certain extent these phenomena may be regarded as corresponding to the anabolism and katabolism of cell life. The human organism (which is the only one which concerns us now) is always prepared to resist injury either from within or from without; *and in the process of resistance the foundations of an immense volume of disease are laid.* Thus, as a result of one or more out of a hundred immediate and remote causes, the usual phenomena of inflammation may arise in the kidney. If it is not very extensive and circumstances are favourable it is quite possible that resolution will take place in a manner entirely satisfactory to the patient. But frequently the resolving process in its praiseworthy desire to be rid of the invader overshoots the mark. Then, if (as, unfortunately, is frequently the case) fibrous tissue is laid down we have beginnings of what we call chronic Bright's disease. We regard this as a fatal disease because we have every reason to think that the fibrosis will go on progressively. And clinical experience here marches closely with the *a priori* teaching of pathology. Much may be done to ameliorate the general health, to relieve symptoms, and to render life far more tolerable to the patient. Often life may be prolonged for years, and during

that time comparatively little discomfort may be experienced. But the kidney does not become less granular; and sooner or later changes in other organs take place and the patient dies.

This progressive organic disease, of which Bright's disease is only a common example, is responsible for something like three-fourths of the real ill-health which at the moment of writing afflicts the people of London. The next question we have to consider is, Can it be cured by suggestion?

The answer is that (a) on pathological grounds it is extremely improbable. The most that psychotherapy can do is to promote the activity of the remedial processes which are, as most people are now aware, mainly governed by centres in the medulla oblongata of the brain. Suggestion "gets at" these centres through the higher centres. It is only necessary to realize this in order to understand that all talk about "physical and mental planes" is (scientifically speaking) nonsense. But when reaction of the mischievous type which we have been studying has already set in and become established, what possible ground have we for thinking that further stimulation of this process is going to benefit the individual? Probably the only effect on the tissues would be that a little more fibrosis would be added.

(b) And with this our clinical experience concurs. So far as we have been able to ascertain, these progressive organic diseases do *not* "get well." The most that medical science can do is to palliate the subjective symptoms which are induced by the tissue changes. Often it can do this most effectively. Instances are on record in which strong

influences from without have been extremely beneficial, or in which "auto-suggestion" appeared to do an enormous amount of good. But that psychotherapy can or does *cure* this class or disorder is most improbable. It cannot, of course, be denied. All that can be done is to state the reasons, preliminary and experimental, for thinking that it is far from likely, and to ask anyone who asserts the contrary to be good enough to bring out his proofs.

On the further point of the relation of suggestion to the New Testament miracles, Dr. Dearmer is as good an apologist as any other. At any rate, he is quite explicit.

"I do not think," he tells us, "we need hesitate to say that suggestion was probably the ultimate means by which power was conveyed in all therapeutic miracles."

Again :—

"There must have been suggestion in every healing miracle of Christ" (IV, pp. 181, 128).

The difficulty of dealing with these miracles from the scientific point of view is that, naturally enough, in many cases the condition of the sufferer before the healing took place is not exactly described, and we can do no more than hazard a conjecture as to what was actually the matter. But some of them are defined with sufficient exactness. Moreover, if the Syria of the time of our Lord's earthly life bore any general resemblance to the Syria of to-day, it is impossible not to suppose that, when large numbers of sick persons were brought out from a village *and He healed them all*, some at least of those who were restored to health must have

been afflicted with the kind of maladies which we have been considering.

Let us, however, take two actual instances.

(a) It may be assumed that the man with the withered hand was suffering from what is (not, perhaps, very happily) called infantile paralysis. In this condition there is early inflammation of a tract of the spinal cord. In itself it may be transient and not particularly deadly. But unfortunately our old friend (or enemy), the "undermind" has rushed in and substituted scar tissue for the nerve tissue which the inflammation had attacked. The result is that the destructive process extends far beyond its original bounds, and eventually a limb supplied from that portion of the cord ceases to grow and atrophies or "withers." Now in this case the man was bidden to stretch out his withered hand. He obeyed the command of love, and it was restored whole even as the other. In other words it was a complete and (we may well believe) permanent cure. It is not too much to assert that we have no evidence which would make us think that suggestion, however brought to bear, could replace that scar tissue by healthy nerve tissue.

Scientific medicine is quite open to conviction. If any medical man who practises suggestion or any faith healer who claims that suggestion plays a part in his methods can produce a case of infantile paralysis in which an atrophied limb has been made "whole even as the other," he will have proved his case against all the pathological research and all the clinical experience stored in books or brains.

(b) So it is with the cases of blindness of many

years' standing. It is true that there *are* conditions in which blindness is only transitory. Snow-blindness is one, toxic amblyopia is not infrequently another, and occasionally a person may become temporarily blind as the result of a shock to the nervous system, as after a severe bout of sea-sickness. But we can hardly suppose that most or many of the blind who came to Christ for healing were suffering from these conditions. Snow-blindness is (for obvious reasons) unknown in Palestine, the Jews of our Lord's time did not use tobacco, and most of them hated the sea. Blindness is very common in Syria to-day and is nearly always due to a definite organic cause. The commonest is perhaps trachoma; but cataract, optic atrophy, and other well-defined tissue changes are also far from rare. And here again to suppose that suggestion could not merely take up the fatal fibrous tissue, but grow new cell tissue in its place, is to conceive something which is as nearly an impossibility as anything which is not a logical absurdity can be; while the theory that vision could be established if the tissues were not first restored to the normal is too fantastic for serious consideration.

(ii) The argument from analogy with other phenomena which are almost universally held to be incredible is two-edged. Thus, on the one side, the apologist may say: You really cannot dismiss all this wealth of testimony as though the whole of it had come into being by process of illusion or conscious fraud. Miracles of the past, as well as of the present time, are carefully and coldly scrutinized whenever a canonization is in prospect. A fair proportion of that which survives such

rigorous examination must be held to be both accurate and valid. And if nothing beyond the establishment of a normal condition in the case of a few *malades imaginaires* or the occasional successful ruse of an impostor took place at the shrines of Christendom, do you suppose that for generations deluded pilgrims would have made so many toilsome and useless journeys?

His opponent will probably reply: I do say that the evidence for anything which transcends the very little which we have reason to believe powerful suggestion can accomplish in conditions of serious disorder is quite worthless. I do so for this reason among many others. If we are to believe that miraculous cures took place at this grotto or before that reliquary on the ground that the evidence is, as one of your prophets has quaintly phrased it, "strong in its cumulative value," what are you going to say about the evidence for witchcraft? When Bodin said that "Prophets, theologians, doctors, judges, and magistrates had elucidated the reality of the crime by many violent presumptions, accusations, confessions, persisted in to death," he was making a sober statement of fact. Even lycanthropy, one of the most extravagant forms of witchcraft, was frequently investigated in courts of law, and the crime brought home to the accused by evidence which at any rate satisfied the judges. A perfectly sane man would tell how he had met a wolf and cut off his paw, and when he came to open his bag, discovered the bleeding hand of his wife. The belief in lycanthropy, and *a fortiori* in other aspects of witchcraft, was passionately defended by quite as many able

persons as were your miracles of healing. Nider, Basin, Fernel, Boguet, Murner, Spina, and many others testified to their belief in the reality of such phenomena. Unless you are prepared to throw in your lot with them, the "cumulative value" of your evidence is *nil*. And if you are right in asserting that pilgrims would not have continued to resort to Canterbury for the best part of 300 years if very unusual occurrences did not take place at the tomb of St. Thomas, why, we should like to know, did the pilgrimages dwindle and finally cease?

To which it is open to the *advocatus sanctorum* to retort: You are taking refuge in a sort of historical Pyrrhonism. By a slight extension of your argument, I will undertake to demonstrate the fatuous nature of a belief in the Gunpowder-plot. As to the discontinuance of the Canterbury pilgrimages, permit me to say that it is my firm conviction that, as faith waned, so did the wonders wrought. This is the New Testament view of miracles. You will not think me wanting in courtesy if I say that it is also the view of common sense.

(iii) In fact, we must regretfully admit that we still await the guide who will lead us to rational certitude in one direction or the other. It is permissible to hold that, unless a large number of devotees afflicted with bodily ailments derived substantial, probably permanent benefits from resort to one or other altar of Divine Compassion, multitudes year after year would not have thronged to Epidaurus or Canterbury or Lourdes. What was the exact nature and extent of those benefits

in past times we are unable to determine. What they are to-day can only be ascertained by careful, arduous and honest investigation.

(3) THE DARKER ELEMENT

Before this long and rather discursive chapter is brought to an end, it is necessary, in order to complete the picture, that some reference be made to the pragmatism of the earlier charlatans. For "pragmatic" they were. None of them expounded anything which can be called a rational system of medicine. If, as was the case with some, they possessed some medical knowledge, they were usually at pains to conceal it. By the help of that unerring instinct without which the charlatan would be lost, they knew that their dupes would expect the darkened room, or the mystical message, or the ecstatic babblings, or some other familiar item from the catalogue of the impostor's stock-in-trade, but that rigid examination of their pretensions was not going to be attempted, would in all probability be resented. What was required of them was a constant series of satisfactory results, with just enough padding to redeem them from the suspicion of crudity. This the industrious magician undertook to supply.

But it is interesting to observe that elaborate and detailed accounts of mirific cures are less common among the charlatans than might have been expected. At any rate, of those which may at one time have existed, comparatively few have come down to us. It would be tedious to attempt to examine and estimate in the mass the evidence

of their claims. Two remarkable examples must suffice.

(i) Apollonius of Tyana is said (*inter alia*) to have stopped the ravages of plague at Ephesus in an instant by pointing out an old beggar as a demon in human form with results disastrous to the beggar. On one occasion, after casting out a demon from an afflicted youth, he ordered the expelled intruder to throw down a statue as a proof of his objective reality; which command was duly obeyed. At Rome he raised a young girl from the dead.

All this, and much more of the same character, is related by Philostratus. Unfortunately, the biographer's geography and chronology are so obviously inaccurate that it is impossible to suppose that his narrative gives us anything but a highly "idealized" account of the wonder-worker's life. Moreover, he was suspected of having deliberately "written up" the Apollonian miracles in order to bring them into line with the healing miracles of the Gospels. There seems, however, to be no good reason to doubt that Apollonius claimed very extensive powers, that a vast number of people (including the Emperor Vespasian) believed in him, and that after his death he was on account of his mighty works venerated as a divine person. How far he was wholly charlatan, or to what extent he may have believed in his own pretensions, it is very difficult to decide.

(ii) Alexander of Abonotichus, who "flourished" towards the latter part of the second century A.D., presents no such difficulties. Of him we have a detailed and transparently trustworthy description

by Lucian. Lucian was the typical, hard-headed sceptic of all time, ready to devote time and run risks in the unmasking of imposture, but quite capable of doing justice to the ability and resource of a resolute and clever rogue. In the briefest outline, Alexander's career was somewhat as follows :—

He was a precocious youth. At a comparatively early age he attached himself to a physician (of no great repute) in his native town, from whom he probably learned the rudiments of medicine. While still a young man, he went to Byzantium and there fell in with a racing tipster named Cocconas. After a delay occasioned by some commonplace intrigues, which probably were not sufficiently lucrative to satisfy his rapacity, Alexander took Cocconas with him on a fortune-telling tour through the Western part of Asia Minor. Eventually, he decided to set up a shrine of his own at Abonotichus. Accordingly, he got rid of his companion and by a series of cleverly staged tricks induced the simple folk of Abonotichus to accept him as "some great one." In Lucian's narrative he appears as a majestic figure claiming to be, now a descendant of Æsculapius, now a re-incarnation of Pythagoras. The *mise en scène* (for a full description of which Lucian must be consulted) seems to have been perfect. Every trick was well rehearsed and worked smoothly and impressively. In reference to one of these tricks—the fitting of a linen mask on the head of an enormous snake which he bought at Pella—Lucian tells us without hesitation :—

"Nothing could save a man but a mind with the firmness of adamant, and fortified by a scientific

conviction that the thing which he supposed himself to see was 'a physical impossibility.'

Clearly, Alexander was no common scoundrel. His hostile biographer makes no secret of his admiration. In one place he says:—

“God grant that I may never meet with such another. His cunning was wonderful, his dexterity matchless. His eagerness for knowledge, his capacity for learning and power of memory were equally extraordinary.”

The cult spread far and wide. Like all successful charlatans, Alexander was bitterly hated. His most determined opponents were the Christians and the cultured Epicureans of the type of Lucian. The latter were at the time the more formidable. Many traps were laid for the “sweet one”; and he could not always avoid them. But he never allowed himself to appear baffled. Sometimes he disarmed enmity by the dignity and good temper which he displayed; at other times he would exhort the believers to make short work of the infidel. If it appeared that he had been altogether wrong in some divination, he was ready with some plausible explanation. Men and women of intellect and reputation came from far and near to consult him and went home to proclaim the wonders which they had seen. When Lucian had contrived to convict him of unmistakable imposture and asked Lepidus, the Roman governor, to proceed against him, he was informed that Alexander must be allowed to remain unmolested; it would not be safe to touch him. Eventually, he died at an advanced age and in the full odour of sanctity, and, later, a magnificent temple was dedicated to him, and coins were struck

in his honour and bearing his image and super-
scription.

Lucian has so much to say about Alexander's performances as wizard and oracle and the brazen effrontery with which he contrived to turn what should have been disastrous failures into triumphant vindications of his divine character, that we hear comparatively little of his doings as a healer of the sick. But scattered about the story are indications of popular belief in his thaumaturgic powers—a belief which, it may be assumed, the prophet sedulously fostered. On one occasion he is said to have restored sight to three blind persons, apparently on the same day. Two cases of raising from the dead are recorded. The deaf were made to hear and the lame to walk in large numbers. There is no mention of the healing of lepers.

So we take leave of the early pragmatists. We can estimate their characters far more easily than the value of their accomplishments. That very many stricken souls sought their aid and found relief we may well believe. Whatever they were—saints or rogues or half-hearted adherents of a crumbling creed—they kept in view the true aim of the physician's science and the surgeon's skill. Even if the spirit which they called up was only the old familiar, the faith which heals, their disciples were doubtless content to know that they did not always call in vain.

CHAPTER IV

PLANUS AGONISTES

LESS violent than the popular acclaim which greeted and sustained the pretensions of Alexander, the enthusiasm kindled in Paris by the reports of the startling cures of the Baquet in the years immediately preceding the French Revolution testified to the intensity of the longing always inherent in human nature for deliverance from physical burdens by any means which, with a fair show of sense and reason, discloses a ray of hope. The reader who wishes to make himself acquainted with the details of Mesmer's career in Vienna and Paris cannot do better than consult Mr. Frank Podmore's well-written and well-proportioned book, *Mesmerism and Christian Science*. Our present concern is not with the incidents of the "Animal Magnetism" craze, but with the practical effects, so far as it is now possible to come to a satisfactory conclusion about them.

That Mesmer "wrested the privilege of healing from the Church and gave it to Mankind as a universal possession" is hardly true as a historical statement. His conflict was with the hierarchy of scientific medicine, and only indirectly with the

belief in the efficacy of shrines and relics. Nor was it his own achievements so much as the mistakes of his enemies which set the world thinking. The echoes of the famous controversy have not yet died away; and its influence may be traced in every revival of faith-healing and in every effort made to harness to the car of science the forces of belief and strong desire down to our own day.

How far Mesmer himself believed in the "magnetism" which he claimed to direct will never certainly be known. The popular story that, after his retirement to Spa, he openly confessed that it was so much "conjurer's patter," rests on insufficient evidence and is inconsistent with his known activities at the time. But his growing avarice, his impudent attempts to exact a princely endowment from the French Government (in which he over-reached himself), and the sordid bargaining with the trustees of his "discovery," whom he supposed to be desirous of practising "magnetism" solely for their own profit—by all this he writes himself down as at least three parts charlatan.

Nor was he even original. Theories, hardly distinguishable from the theory of a "magnetic fluid," had been current ever since the days of Paracelsus. Paracelsus seems to have meant by "magnetism" any action at a distance by one body on any other body. The chief medium for the storage and transmission of this force was "mummy." The best mummy was the moss growing on the skulls of criminals who had been hanged. For the benefit of those who might live in a country where there was a scarcity of criminals, Paracelsus was so obliging as to specify other kinds

of *magnes microcosmi* which might be used (XCVI, *passim*).

An embittered controversy in the seventeenth century between a magnetic healer named Goclinius, and Roberti, a Jesuit father, drew from Van Helmont, a noted physicist of the time, a learned exposition of the true nature of the "magnetic armoury," in the course of which he convicts Goclinius of ignorance and Roberti of superstition. Magnetic healing, he explains, is a purely natural process. "It doth not so much as pre-require the Imagination, Confidence, Belief, or Leave to be required from the wounded party." Van Helmont had something of the pragmatist in him. "It is not suitable," he says, "to the customs of Naturalists to dispute from naked authorities; they rely on experience." Of this experience he gives a full account. Thus, it is well known that lightning will not strike a house or stable which has been anointed with the fat of a sea-calf (apparently, because the bull is a passionate animal); "the experience is trivial and frequent" (XCVII, esp. p. 793).

The polarization of the human body had been taught by Fludd and Maxwell in our own country. To them, too, the operations of the magnetic fluid were wholly natural. References to the "eternal Centrall Spirit" and "the original and supreme mind, containing in itself the seminal causes of all things," which "were instruments by which the great body is moved and links in the golden chain of Providence," seem to have been introduced as a concession to popular piety (XCVIII, pp. 221-3).

The efficacy of the contact of the operator's hand with the affected part had been, of course, main-

tained by a multitude of "chiro-praktors," of whom Valentine Greatrakes, "the Stroker," was perhaps the most widely known. Other sources of inspiration are pointed out by Bertrand (XCIX, pp. 13-18). Bertrand's thoughtful and suggestive writings have not received the recognition due to the writer.

It was in all probability the ardent support accorded to Mesmer by Deslon which brought Mesmer into conflict with the scientific world of Paris. Charles Deslon was Doctor Regent of the Faculty of Paris and physician to the Count of Artois. In the earlier phases of the long struggle, which began in 1778, the scientists do not appear as blindly and irreconcilably hostile. They are quite willing that a genuine investigation into the results as well as into the nature of Mesmer's treatment should be carried out. Thus, in 1778, the Commission of the Royal Society of Medicine announced its entire readiness to probe the completeness and permanence of the cures which Mesmer was said to be bringing about, only stipulating that they must examine the cases before the magnetic treatment was begun. In this they were unquestionably right, though Mesmer with incomparable dexterity made it appear that they were imposing impossible conditions. Mesmer's patients came from all parts of the country. The standard of knowledge among provincial doctors was extremely variable. The Commission was composed of trained observers, whose accuracy in diagnosis was as high as any which was to be found in France. Except in that it involved the expenditure of more time and trouble (and this was clearly a matter for the Commission to consider), there was no objection to their proposal. Mesmer,

however, would not have it, and the Commission did nothing.

Towards the end of 1779 Deslon arranged that three members of the Faculty of Medicine should come to the "Baquet" and "Salle des Crises" once a fortnight, make their own observations and report on what they found. Here, again, the scientific men were quite ready to try to estimate the practical results of treatment by "Animal Magnetism." The report, issued the next year, is extant. It deals entirely with effects. Unfortunately, the descriptions of the morbid condition existing in each case and of the completeness of recovery are so inconclusive that it is impossible to make out how far the investigators were unreasonable in refusing to see in any of the cures a process "which might not have been expected in the ordinary course of nature."

But from this time onward, scientific Paris contrived to put itself almost wholly in the wrong. It did more. It showed itself unable or unwilling to investigate the subject which was really in dispute, viz., the efficacy of the treatment of the "Baquet"; it was convicted of disingenuousness, if not of outright dishonesty; it used with utter recklessness the dangerous weapon of inquisitorial powers.

(1) In the matter of the complete disproof of the existence of the "magnetic fluid," the investigators were straightforward and convincing. Thus, the joint committee of the Academy of Science and the Faculty of Medicine, appointed in 1784, by the simple application of the electrometer and an iron needle, clearly demonstrated that magnetism (as the word is commonly understood) had nothing to do

with the phenomena of the Baquet. They went further. At least on one occasion they were able to show that these phenomena were purely subjective. At Passy Deslon had been asked to "magnetize" a tree which stood at a considerable distance from other trees in the garden. A patient of his, a boy of 12, was brought into the garden blindfolded. He began to sweat profusely as soon as he came in contact with one tree, and fell "into a violent crisis" on touching the fourth; yet all the time he had never been near the "magnetized" tree. The unfortunate Deslon was driven to contend that the effects were due to the "natural magnetism" of the trees.

But the deduction which the men of science drew from these conclusive demonstrations was, to say the least of it, unfortunate. "A thing which does not exist," they declared, "can have no utility." By the same process it might be held that the perception of light is a mere illusion, because Newton's theory of light is demonstrably fallacious.

(2) Before this time, the Faculty of Medicine had committed a grave tactical blunder in its treatment of Deslon. In 1780 Deslon was indicted for non-professional (it was not then called "infamous") conduct. Now, Deslon had undoubtedly "covered" an unqualified practitioner—a practitioner, too, whose reputation could only by the merest flattery be described as doubtful. In any well-ordered community, it is fitting and necessary that representatives of the several learned professions should be allowed to scan the conduct of their own members in various particulars, and be armed with disciplinary powers. It would be a mere display of weakness

on the part of such a body if they dealt summarily with some unfortunate who advertised in a provincial newspaper or gave anæsthetics at an obscure dental institute—and appeared to quail before the prospect of impugning the behaviour of a doctor alleged to have supported some notorious quack healer who basked in the smiles of countesses and contributed persuasive articles to respectable reviews. Moreover, it is not unlikely that sooner or later the infinitely difficult casuistical question will have to be faced—how far is it justifiable to employ a method which can be shown to be delusive or fraudulent, but none the less obtains therapeutic results of the highest value?

But when the leaders of the Faculty of Medicine ignored these results, or when, if they condescended to glance at them at all, they laid themselves open to a suspicion of dishonest dealing, they cut the ground from under their feet. They forgot that the powers which they exercised had been entrusted to them, and that the law tried to prevent the designing charlatan from making capital out of the ignorance of the unthinking multitude on one assumption only, viz., that by such provisions the health of the community was calculated to be best preserved. The world at large was (rightly) wholly indifferent to the upkeep of professional dignity or the regard due to laborious scientific research, except in so far as these were a means to a clearly discerned end. An able and accomplished physician of the day, one Vauzèsme, made a brilliant speech as prosecutor and won his case. A sentence involving something like professional ruin was pronounced against Deslon, and the latter appeared

before the eyes of men in the light of the victim of unreasoning hostility on the part of a narrow and tyrannous *Vehmgericht*.

(3) It has been said that the professed scientists were not even honest in dealing with some of the reported cures by "magnetism." A M. Busson, physician to the Countess d'Artois, had been treated by Mesmer for nasal polypus. Shortly before the date of Vauzès's indictment of Deslon, M. Busson announced that he was completely cured. The case naturally excited considerable interest. Vauzès could not pass it over as unworthy of notice. He was therefore at pains to show that six physicians had consulted about the case, had indeed agreed that an operation was not to be recommended, but had declared themselves as being unanimously of opinion that a favourable suppuration (*fonte heureuse*) might take place and the condition be thereby relieved. Vauzès therefore contended that the polypus had disappeared in the natural course and that this event had been foretold as probable by the six consultants. A few days later M. Busson died. What Vauzès then said is not recorded. But sixty years later the authors of the *Histoire Académique*, in dealing with this case, informed the world that the six physicians had predicted that M. Busson would die (p. 21). Mr. Podmore's judicious comment is: "What did those six doctors really say? That we shall probably never know." Probably not. But we can hardly resist the conclusion that either Vauzès or the *Histoire* was guilty of saying "the thing that is not."

Three years after this,

"Count de Gébelin, author of *Le Monde primitif*, having

been seriously ill for six months, and finding no relief in ordinary medicine, went to Mesmer in March, 1783, and soon afterwards sent a circular letter to the subscribers of his book, announcing his complete restoration to health. The physicians were unanimous in asserting that de Gébelin had never been really ill. A year later he had to return to Mesmer for further treatment, and died in May, 1784, from kidney disease. The physicians were now agreed that he had never been really cured" (VI, p. 66).

(4) But the real gravamen of the indictment of the tactics of Mesmer's enemies lies in the fact that from 1780 onwards they refused to attempt any systematic examination into the therapeutic effects of animal magnetism—in other words, into the one aspect of the subject under discussion which ought to have been to the eyes of science and was in the view of the world at large of supreme importance. The reasons given in Bailly's Report for this decision read more like burlesque than sober statements. So little, they say, is known about human physiology that it is impossible to trace cause and effect in any remedies which may be applied. In fact, the therapeutic value of any line of treatment can never be assessed. We must just go on blindly making experiments, and, when we have made them, must admit that we cannot say whether they have been successful or not. Next, they proceeded flatly to contradict this oracular pronouncement. It *was* possible to affirm the value of results, but it would take a very long time, perhaps "the experience of several centuries." Then, apparently in desperation, they justify themselves by quoting Mesmer of all people, apparently with approval. Mesmer, so they maintained, had admitted that his cures proved nothing "because

it is impossible to eliminate the *vis medicatrix natureæ*." Mesmer must have been as highly gratified at having thus been cited as an authority as was the half-crazy pot-boy on whose views Sir Theodore Martin relied for establishing his contention that the mitigation of the law of treason was unwise. That the whole question at issue was whether or not Mesmer's methods had been remarkably successful in assisting the *vis medicatrix* does not seem to have occurred to these learned men. Finally, no such inquiry could be undertaken because the distinguished people who resorted to the Baquet would be much annoyed at being pestered by questions. The late Sir W. S. Gilbert might have added to his contribution to the gaiety of nations if he had happened to encounter Bailly's report.

It was inevitable that this astounding apology for refusing to examine the really crucial point in dispute should provoke a storm of criticism. Said Bergasse, going straight to the heart of the matter, "It seems to follow that medicine and the art of healing are two distinct sciences, without any necessary connexion between them" (VII, p. 21). Another, who claimed to have been restored to health by "magnetism," writes: "If it is to illusion that I owe the health which I believe that I am enjoying, I humbly beg the professors who see so clearly that they do not destroy it; that, while they give light to the universe, they leave me in possession of my mistake, and allow my simplicity, my weakness, and my ignorance to make use of an *invisible and non-existing agent, which none the less has healed me*" (VIII, p. 30). Heavier artillery

was brought to bear in the *Doutes d'un Provincial* commonly attributed to M. Serran, at one time advocate general to the Parliament of Grenoble. The author begins by saying that he asks for a hearing as one who has found relief in magnetism after twenty years' ineffectual treatment by ordinary medicine. After a shrewd and pointed criticism of various details of the report, he concludes:—

“This inquiry into the claims of a rival system has been entrusted to the hands of medical men, members of the profession which obstinately refused to accept the proofs of the circulation of the blood ; which rejected the use of emetics ; which treated as rubbish the quinine for which they now ransack a continent ; which made itself the laughing-stock of Europe and Asia by opposing the practice of inoculation ; which, in a word, has set its face against every new thing—condemning in its day even the *petits pains* which every doctor now consumes at breakfast. . . . Suppose the inquiry had been concerned with the practice of Medicine instead of with that of Animal Magnetism ; that the action of drugs had been judged in every case by their immediate effects ; and that in the treatment of cases every result which could be attributed to the imagination or to Nature had been set aside ; suppose, in fact, that the Commissioners themselves had been the subject of inquiry, and the judges chosen from the ranks of their own patients—*juste ciel, quel rapport ils eussent pu faire*” (IX, vol. ii, p. 58).

Unfortunately we cannot now to any considerable extent remedy the Commissioners' mistake. The best of the material for examination is contained in the *Supplément aux Deux Rapports de MM. les Commissaires*, published in 1784. This was supposed to have been prepared by Deslon. It bears the marks of hurried compilation, the object, no doubt, being to get something out while Bailly's

Report was still fresh in the mind of the public. The *Supplément* contains records, enriched by a varying degree of detail, of 115 cases of cure or improvement after treatment by "animal magnetism" which had occurred between 1782 and 1784. In trying to form an estimate of them, we shall do well to keep in mind the following general considerations :—

(i) The number of cases presented for examination is not at first sight very large. It is said that in 1784 as many as 8,000 patients were under "magnetic" treatment in Paris alone. The 115 cases of the *Supplément* were taken from the records of two and a half years. It must, however, be remembered that, as has been said, these were obviously gathered in a great hurry. They are given as specimens and do not profess to constitute an exhaustive list.

(ii) The permanence of the result obviously varies with the date at which treatment had ceased. When this was in 1782, it is a fair inference that there had been no decided change in two years.

(iii) Considerable allowance must be made for the bias of the contributors and compiler. When the contributor was a doctor, he may be assumed to have been a convinced believer in "animal magnetism," even if he did not actually practise it.

(iv) A still heavier discount must be levied in the case of reports made by patients themselves. There is no reason to suppose that a high proportion of the "unsolicited testimony" of quack advertisements is the product of cajolery or bribes. There is still less reason for the view that all of it would bear scrutiny. Even here we must be on our

guard against exaggeration. Anyone who has had experience of trying to investigate a remarkable cure by some unusual method of treatment knows how frequently he is met at the very threshold of the inquiry by excuses for a refusal to supply details. If a patient allows his case to be published and thus submitted to the judgment of contemporaries, there is a reasonable presumption that he at any rate believes that it will stand the test of thorough examination. This is of some importance in the present instance. Every one knew that the feeling against Mesmer was intensely bitter. The compiler of the *Supplément* must have been fully aware that he was throwing down a gage which any hostile scientist might take up. If one of the 115 records could be shown to be wildly inaccurate, the credit of the *Supplément* would be seriously damaged.

(v) Apart from two cases which are described and discussed below, nothing of a really startling kind is even alleged to have taken place. Several patients state that they have suffered from "tumours"—sometimes for a considerable number of years. More often than not these are described as "schirri" (*squirres*). But in the absence of medical evidence it is impossible to say whether or not they were supposed to be cancerous in origin.

With the above cautions in mind, we may find it of interest to look at some of the recorded cases. For this purpose a few, in character representative rather than sensational, have been selected.

CASE 1. SEVERE BURN IN A CHILD

A male child of 2 years was brought to Deslon on the day following an accident which involved an extensive burn

in the right arm with complete destruction of skin as far as the elbow. After treatment by magnetism only for three days the skin was completely restored. Not even a scar was left.

The flaw here seems to be that the first medical man who saw the child after the accident was probably Deslon. That he would have asserted the entire destruction of the skin of the upper arm if the injury had really been infinitesimal is not very likely. He seems to have been "indifferently honest," and, even if that was not so, inquiries among neighbours might have had an awkward result. Still, a man who is "out" to prove something must always be suspect. It is almost incredible that the result was not as described. Hundreds of angry eyes would scan the *Supplément*. This case would certainly attract attention. Nothing would have been easier than to demonstrate the fact that long after the alleged "cure" the usual phenomena of scarring and contraction of skin were present in the affected limb. It is worth observing that "imagination" can hardly have played any part in the "cure" (VIII, p. 3). We may compare this case with:—

CASE 2. SEVERE BURN IN AN ADULT

Jean Gastal, a scullion, was severely burnt by an explosion of fireworks on the thighs and lower abdomen. Deslon "magnetized" the thigh, and on the day following Jean removed the scab and found the skin below perfectly normal. The remaining burnt area was less severely affected. This was not "magnetized" (nor, apparently, treated in any way), and did not heal for three weeks (VIII, p. 43).

The interest of this case lies in the fact that, if we accept it at its face value, it bears a close resem-

blance to an experiment afterwards made by Delbœuf, described in detail by Bramwell (CXX, p. 152). A description of this case, with the legitimate inference which may be drawn from it, will be found on p. 249 of the present volume.

CASE 3. (?) OSTEO-ARTHRITIS

Mine de la Perrière had had rheumatic pains all over the body; "les doigts se courbèrent, et il vint des nodus à toutes les articulations." She was "magnetized" on several occasions during the summer of 1783, as a result of which her hands returned to their natural condition and all symptoms disappeared (VIII, p. 22).

This is one of the most arresting cases recorded. The statement of a rustic "bourgeoise" would not be in itself convincing; but in the circumstances of the time, the disproof either of her assertion that the fingers had been gnarled and crippled or that they were now completely cured, so easily made, would surely have been attempted.

Alleged cures of "rheumatism" are common in the *Supplément*. For instance:—

CASE 4. (?) FIBROSITIS

M. Chauvet was a priest. In 1778 he was in bed for three weeks with a severe attack of rheumatism. For five years he was never free from pain. This especially attacked one or other arm and was often so extreme that he was unable to move the limb. In 1783 he was induced to try "animal magnetism." The first application produced profuse perspiration and was followed by a disappearance of all pain. After a short spell of treatment he became quite well, and at the interval of one year can say that "he no longer knows what rheumatism is" (VIII, p. 51).

The cogency of this case clearly depends on the *bona fides* and "level-headedness" of the narrator. The Commissioners might well have been excused

if they had declined to investigate cases of this nature. The utmost that the most careful examination and the most rigorous cross-examination could elicit would be the conclusion that the patient had exaggerated either the extent of the previous disability or the satisfactory character of the result of his visit to the Baquet, perhaps both. The degree of exaggeration it would have been difficult, if not impossible, to estimate.

CASE 5. CHOREA

A boy of 11 was for ten weeks under treatment by "animal magnetism." He had previously derived no benefit from the ordinary medical treatment. Movements were severe, and had been followed by partial paralysis. The patient was unable to use his right arm and leg and his tongue was affected. After ten weeks of magnetism he was cured. More than a year later, the condition returned in a milder form and he was again cured by magnetism (VIII, p. 4).

Every doctor who read the *Supplément* would have recognized in this a case of the first importance. It is to assume too much to maintain that the account must have been shown to be erroneous, if this had been possible. But it seems probable that it is a tolerably accurate statement of what really happened. If so, the result is certainly remarkable. The symptoms described suggest chorea in an intractable form, though the palsies may have been altogether or in part due to the administration of an excessive quantity of arsenic.

Perhaps, when all is said, the real claim to recognition of the strange being who set up the Baquet and masqueraded in a lilac robe and waved his wand derives from the fact that in a highly critical age

many thousands of all classes came to seek healing at his hands. The common contention that a period of unbelief is also a time of childish credulity will not explain the obsession ; for it was among a generation of incipient doubters and not of sated sceptics that Mesmer posed and waved. That up to a point he was remarkably successful can hardly be denied. We are also fairly safe in assuming that he had no "discovery" to impart, no "secret" to disclose. Even hypnotism, on which he stumbled, as it were, by accident, was not recognized as possessing any therapeutic value until after his retirement. The exact extent of the response which he was able to evoke will be more easily understood in the light of the information contained in subsequent chapters.

CHAPTER V

DIVERGENT PATHS

MESMER was himself both more original and more "magnetic" than the methods which he pursued. Assisted by the ineptitude of his scientific adversaries, he did much more than found a school. He compelled thought along certain lines which were destined to ramify and interlace, often with bewildering results. It is not always possible to separate the various cults or to say to which of them some particular emanation ought to be assigned. But we are able to discern four main varieties: (1) the avowedly "Magnetic" school, (2) the "Spiritistic" movement, (3) the (nominally or actually) Christian therapists, (4) the strictly scientific exponents. Of these the first two will be noticed in the present chapter.

I. The Magnetists

In his comparative retirement at Spa, Mesmer imparted (at a fairly stiff charge) the "secret" of his system to a body of believers which is said to have reached the number of 300. Deslon had his own adherents and tells us that in 1784 they numbered 160 persons. By these and others "Societies of Harmony" and centres for the study of Animal

Magnetism, called by various names, were established, not only in France, but in Germany, Switzerland, Sweden, Italy, and at a later date in America.

The most famous of Mesmer's early disciples was the Marquis de Puységur. He seems to have paid the hundred louis demanded by the Master for initiation into the mysteries of Magnetism and to have left him in considerable doubt as to whether he had not been defrauded. Not that Puységur wanted to make money. It is doubtful whether he even greatly desired notoriety. He seems to have possessed a genuine and simple wish to relieve suffering. He began by "magnetizing" a tree on his own estate, which lay not far from the now historic town of Soissons. This was his Baquet. He had no lack of patients, and it appears that he had no reason to be dissatisfied with the effects of his treatment. "The tree," he says, "is the best Baquet possible; every leaf radiates health; and all who come experience its salutary influence." But before long his attention was directed to a phenomenon which he rightly regarded as of considerably more importance than the absorption by the patient of the "magnetic fluid" elicited from earth or wood or stone. This was the hypnotic trance. In Mesmer's establishment, a profound sleep had not infrequently been seen. But it was regarded as merely a variety of the "crisis" which magnetism sometimes induced. Puységur noted that when his patients were "en crise" (i.e., hypnotized), (i) motion and sensation followed his direction; (ii) the patient would often speak and behave in a manner of which in his waking condition he was

quite incapable ; (iii) afterwards there was complete amnesia of what had occurred in the state of trance. He also claimed for his somnambules the faculty of clairvoyance, especially of diagnosing their own and others' maladies. For a considerable time he maintained his belief in the magnetic fluid. Indeed, it must be true, for had not many of his patients seen it ? Sometimes it was a brilliant light passing from the person of the operator ; sometimes it could be seen pouring itself into milk or water. Magnetized milk, he found, would be retained by a patient who could digest nothing else. Iron would conduct the current of animal magnetism ; glass would increase it ; copper dispersed it ; silver reflected it. Puységur repudiated altogether the idea that thought-transference accounted for the control of the somnambule by the operator. "Not at all," he said ; "when Madeleine obeys my silent will, it is the fluid directed by my will that causes the movement ; she is herself only an animated magnet."

As time went on, however, Puységur paid less and less attention to the "fluidic" theory. His first somnambule, a young peasant, named Victor, had, he tells us, revealed to him the real secret of Animal Magnetism. It could be expressed in two words, *Croyez et veillez*, Believe and 'will. Whatever the medium might be, the operative force was the will of the individual bearing upon his own organism (X, pp. 30, 142, 143, 163). It was presumably in accordance with this precept that the Strasbourg Society of Harmony inscribed on its walls Vergil's line :—

"Mens agitat molem et magno se corpore miscet."

But the "magnetic tradition" was faithfully upheld by Deleuze, an ardent and genuine scientist, though not a doctor. His patients, like Puységur's, had seen the fluid coming from his fingers and had tasted it in magnetized water and milk. It is not without interest that Deleuze should have regarded the faith and will to which Puységur attached so much importance as necessary to the operator, but not to the patient. There is no record of a Baquet in Deleuze's "practice." He regularly employed the hypnotic trance and obtained the results, very soberly recorded, which are now a commonplace of scientific medicine.

In fact, from this time onwards the Baquet and the Mesmerian "crisis" disappear. The *Archives du Magnétisme animal*, begun in 1819, deal almost exclusively with trance phenomena. Magnetism came to mean hypnotism, though it was credited with clairvoyant and other powers which scientific investigation has discredited. As such it was firmly established in Prussia, Denmark, Scandinavia, and even Russia.

Animal Magnetism was introduced into England as far back as 1785 by various propagandists from across the Channel, of whom the best known were Bell and Mainanduc. They were followed by native practitioners. None of these men seem to have possessed medical qualifications, and they loyally followed the Master in making pecuniary profit an outstanding, if not the main object of the enterprise. Mainanduc asked (and apparently obtained) twenty-five guineas for a course of lectures. Admission to any of the demonstrations given by Louthembourg, an Englishman, cost one guinea. It is not very

surprising that under such circumstances the practice fell out of favour.

Popular interest was, however, aroused again in 1829 by a worthier exponent, Richard Chevenix, F.R.S. Chevenix was a distinguished chemist and mineralogist, who had learnt magnetism during several years' residence in Paris from the Abbé Faria. It is hardly correct to class him among the "magnetists," since he appears at a very early stage to have regarded the effects produced as due solely to the influence of the operator on the nervous system of the patient. For this reason he rejected the name "Magnetism" altogether. His first article on the subject in a London medical paper is headed, "On Mesmerism, improperly denominated Animal Magnetism." But he appears to have obtained some remarkable results, though it is hardly necessary to say that the genuine character of the manifestations was hotly denied by the more orthodox of the scientists of the day. The following case is worth recording :—

CASE 6. APPARENT THOUGHT-TRANSFERENCE

On one occasion Chevenix described to Surgeon-Major Whympster the sensations of heat and cold which he intended to induce in his patient (a soldier of the Coldstream Guards) by stroking his hand with a silver pencil case. The description was given out of the hearing of the patient. Six times following, results followed as described, Chevenix not speaking during the time. Afterwards, the success was variable. Chevenix himself says that he has noticed that fatigue rapidly interferes with the patient's receptive power (XI, p. 119).

If this had been performed by a mountebank on a music-hall stage, it would not merit consideration.

But unless we are to assume collusion between Chevenix and his patient, the phenomenon is, as far as it goes, remarkable. The famous Dr. Elliotson witnessed the same thing done on other occasions, and did not doubt that it was a genuine manifestation. Unfortunately, we are not told whether any of those who were present at Chevenix's demonstrations insisted on their own order of hot and cold sensations being observed. This would not have reflected on Chevenix's *bona fides* and would have ruled out the possibility of the patient merely fulfilling an accustomed routine.

Elliotson himself was at first a convinced believer in animal magnetism. He occupied a position of considerable importance in the British medical world; and his eager advocacy of the practice drew a large measure of attention to it. But he was an impulsive and somewhat ill-balanced person; and he seems to have been unable to distinguish between the conclusion to be drawn from Wakley's decisive demonstration that the "magnetic" theory was sheer illusion and the inference that his hysterical patients were rank impostors. The heated controversy that raged round Elliotson's clinics—with a host of his confrères always eager to prove that he was a mere dupe in the hands of designing neurasthenics, and Elliotson himself often unable to make up his mind about it—did much to retard the scientific recognition of the genuine and important phenomena of the hypnotic state in our own country.

But a more robust faith prevailed in Germany. In 1845 Baron von Reichenbach published an account of experiments which, in his opinion,

conclusively proved the existence of a true magnetic force, perceptible to sensitives in the trance condition, and capable of being usefully employed. To this force he proposed to give the name of the "Od force" or "Odyle" (XII, p. 181). The experiments on which he relied are of the kind with which we are already familiar. In themselves they are not without interest; but the difficulty of estimating the true value of Reichenbach's control experiments and the impossibility of excluding the hypothesis of the revelation of what was required of him (consciously or unconsciously conveyed) to the patient by the operator reduce us to impotence in the endeavour to arrive at a satisfactory verdict. What is of more importance is to note that Braid at the time and many investigators since have shown that it is possible to carry out every one of Reichenbach's experiments and obtain the same results by the use of a glass rod or a gold pencil case entirely innocent of magnetism.

The belief in a magnetic fluid is probably not quite extinct. In 1908 Mrs. Sidgwick slightly disturbed the serenity of the Society for Psychical Research by a very earnest apologia for the existence of the "N rays," but gained very few adherents. Before this (in 1892), Dr. Luys was making scientific circles in Paris seriously unhappy by the persistency with which he maintained the reality of the magnetic fluid as well as of the "magnetic" trance. He even claimed to demonstrate "*l'Envoûtement*" as a genuine manifestation—i.e., the response by a sensitive patient when an image representing her was pinched or pricked or squeezed after the fashion of mediæval magicians. These feats were performed

at the hospital of La Charité in Paris. A complete and overwhelming exposure of the character of Luys' sensitives and of the invalidity of the so-called control experiments may be read by the curious in the *Nineteenth Century* for February, 1893. Like another famous document, it "leaves nothing for the Day of Judgment" and perhaps not much more for posterity. Yet, so lately as 1912, in a volume by a man of some education, the author avers that "certain people have peculiar gifts which may be, as Mesmer thought, due to a fluid that passes from the operator." Nay, the great Mrs. Eddy herself maintained her belief in "Malicious Animal Magnetism," to the end, though, like the demons of old, she believed and trembled. In 1878 she brought a charge of what amounted to malevolent witchcraft against a former supporter with whom she had quarrelled. How the indictment came (in legal parlance) to "lie" is beyond explanation. But there is no doubt that the action was tried, ending in unhallowed laughter and the dismissal of the case.

II. The Spiritists

Apart from stray survivals, such as those to which reference has been made, the Magnetists or Mesmerists became merged in the fraternity of spiritism which, armed with an alluring doctrine of occultism which seemed to embrace the phenomena of mesmerism and a good deal more, began to make its influence felt, in the early fifties. The prophets of the movement came for the most part from the United States, following on the heels of the "Elec-

tro-biologists," whose teaching and performances are related and criticized in a large number of contemporary records as well as in the pages of *Punch*. Elliotson himself became an ardent spiritist, finding in the new gospel an avenue of return to the belief in Christian tradition which he had long discarded.

The same thing had happened in Germany at an earlier period. The famous Fräulein Julie, half neuropath, half conscious charlatan, seems to have been the first to have claimed *rapport* with the spirit world while in the "mesmeric" trance. This young woman was a governess in the family of Baron von Strombeck, a worthy pillar of the law of Zell in Prussia. From 1812, when the spirits began to engross her attention, she made the excellent Baron and his wife lead what can only be fitly described as a "dog's life" in ministering to her caprices and obeying her exacting behests. Strombeck compiled a voluminous record of her doings. It is exceedingly amusing, though not altogether edifying. No good purpose would be served by any attempt to reproduce extracts here. The "clairvoyant revelations" are indeed singularly commonplace and would be hopelessly monotonous, were they not interspersed with accounts of the confusion which Frl. Julie delighted in bringing about in the Strombeck ménage. As a "spiritist-therapist," her efforts were mainly directed to the cure of her own ailments, and in this she was obviously unsuccessful. A sound whipping administered by the stout arm of Frau Strombeck would probably have been much more effective (XIII, pp. 30, 34, and elsewhere).

But she had many imitators. Fräulein Römer (most of the clairvoyants of the period were women) was carried in the spirit to the Moon and on her return described what she saw. The description cannot be called original, since it follows closely the visions of others of her kind ; but it is much less prosaic than the account of lunar conditions given by the astronomers (XIV, esp. p. 24). Then there was "R. D." who was *en rapport* with a very wicked spirit, a dissolute monk and at the same time a Jesuit, who had murdered his five children and buried them in the monastery grounds. Fortunately she had at hand a much more reputable spirit, one Albert, who saved her from the evil influence of the other, or at least restrained him from doing anything more malevolent than throwing flower-pots about the room (XV, pp. 18, 37). And there was Frau Hauffe, whose words and actions in a state of trance were described by the poet Kerner in 1829, with many others of the same class and character. From the therapeutic point of view their revelations are not interesting. Nor has the therapeutic element been specially prominent in the countless revivals of spiritism in Germany which have attracted the attention of certain circles down to the present day.

The modern (and in all probability the approximately correct) view of these varied phenomena has been concisely stated by Sir H. Morris in the following terms :—

"It is evident from what is now known that animal magnetism, electro-biology, clairvoyance, odic force, mesmerism, and hypnotism are essentially one and the same thing, which has undergone a series of revivals under different names. They have all had the same origin and the same history ; and while the different names predicate

different theories, they do not in reality stand for any difference in method" (CXIV, 1910, vol. i, p. 1458).

In America the development has been of a somewhat different character. Animal Magnetism, introduced into the United States in 1838, had, as a pure culture, a shorter life than in other countries. Very little of it survived the outbreak of table-turning and other spiritist phenomena which spread like cholera in 1848. The connexion between the two is well seen in the case of Andrew Jackson Davis. There is a good deal about Davis which is of interest. But his chief claim to detailed consideration in these pages lies in the fact that he was one of the forerunners of the evangel which was destined to permeate the English-speaking world before many years were over under the name of "Christian Science."

Davis was a native of Poughkeepsie. In 1843 he attended a lecture on Animal Magnetism delivered by a well-known exponent of the time named Grimes. Davis allowed himself to be hypnotized by one Levingston, who was a follower of Grimes. Levingston was much impressed by the clairvoyant powers disclosed by his young "sensitive," and remained at Poughkeepsie with the intention of helping Davis to develop and apply them in the healing of disease. Many patients resorted to the new healer, and in each case Davis, in a trance state induced by Levingston, diagnosed their condition and prescribed remedies. Hardly anything is on record of the nature of remarkable cures effected. In fact, Davis does not seem at this stage to have advanced beyond the modest pretension that he could, while in the clairvoyant condi-

tion, discern the exact nature of the complaint and indicate the best method of treatment. He did not deny the existence of disease or the possibility that some conditions were beyond repair. "By looking through space," he tells us, "directly into Nature's laboratory or else into medical establishments, I easily acquired the common (or even the Greek and Latin) names of various medicines and also of many parts of the human structure, its anatomy, its physiology, and its neurology" (XVI, p. 253). Sometimes he condescended to prescribe drugs. More usually he recommended the use of the skins of rats and frogs and the fat of weasels.

But a mightier revelation was at hand. The spirits of Galen and Swedenborg approached him and promised to supply him henceforward with an inspired message. This was duly delivered and shortly afterwards published in the form of a book entitled *Clairmativeness*. It would appear that Swedenborg had a larger share in this than Galen. Only comparatively small portions of it deal with therapeutics. Such as it was, the book dictated by Davis was admittedly "edited" by a Rev. G. Smith, a minister of the Universalist Church, who was also obliging enough to "correct the grammar."

Two years later, it was revealed to Davis that he should leave Livingston and attach himself to a Dr. Lyon, a "mesmeric" practitioner. The same performances were re-enacted, a minister named Fishburgh this time performing the useful rôle of amanuensis. The result was published in 1847 in the shape of a large volume, *The Principles of Nature, Her Divine Revelations, and a Voice to*

Mankind. The interest of this book is two-fold.

(i) In it he enunciated the doctrine which afterwards came to be the central "truth" of Christian Science, the non-existence of disease. Like the Christian Scientists, Davis taught the non-existence of other things as well. Sin is an "illusion." Matter generally has no real existence, for "nothing exists in the world, except as it is produced and developed by an interior essence" (XVII, esp. pp. 121-2). The jumble of crude metaphysics, scientific misstatements, and incomprehensible diction is of much the same kind as that which is now read and absorbed by the devout, so far as human frailty permits, from the pages of *Science and Health*. At a later stage in the *Physician*, Davis pronounced all disease to be "a discord," and condemned all material remedies as "unqualifiedly erroneous."

(ii) *The Principles of Nature* is the dullest of dull rhapsodies. The Scriptures are saddled with long and dreary "interpretations" of a "gnostic" character. Christ is praised as a "noble and unparalleled moral reformer." His Divinity is denied, and most distinctively Christian dogma explained away after the fashion of the "Modernism" of our own day. There is much popular science, very imperfectly assimilated and in many cases entirely misunderstood, but obviously "lifted" from one or other of the science primers which were at that time in great demand. There is still more of "Swedenborgianism," taken almost verbatim from translations of Swedenborg's writings. But the net result is certainly an astonishing performance for a mere youth of twenty years. That the book really was dictated by him in conditions of trance

or "reverie," often self-induced, there is ample evidence to prove. Mr. Fishborgh was, no doubt, responsible for the spelling, and probably gave coherence to the prophet's rambling sentences. But the substance of the "revelation" is unquestionably from Davis himself. Now Davis was an incorrigible liar. His statement, for instance, that he had "read nothing except the Bible and one short novel" is disproved by the testimony of those who had known him intimately in early life. Moreover, he was convicted in at least one instance of deliberate plagiarism, of which his "explanation" is wholly unconvincing. But the fact that day after day he produced when in the hypnotic or semi-hypnotic state the substance of a book which it is clear that he could not have composed in his fully awakened life leads the unprejudiced observer to wonder whether there may not be possibilities of developing the sub-conscious mentality which even the Freudians have not yet explored.

Many other rhapsodists arose about the same time. Some of them were under the control of the spirits of persons like Shakespeare and Daniel Webster who had played a large part in the affairs of men. Others owned the inspiration of more obscure advisers—the "Julias" of the place and hour. The tendency was more and more to drift from mere healing to a sea of larger revelations, though, as Mr. Podmore justly observes, "it is a general characteristic of the prophets of the period that they were healers as well as teachers." In all probability, if it had not been for the restoration of the old paths by Quimby and Mrs. Eddy, the severance would eventually have been complete. The most noteworthy among

them was Thomas Lake Harris, the head of the Brocton community and the somewhat arbitrary master whose stern commands Laurence Oliphant for some years uncomplainingly obeyed. The character of Harris is not easily measured. In his later life there were scandals. When a man talks about "spiritual affinities," "mystical marriages," and "celestial brides," whether at Brocton or Spaxton, it is inevitable that an unfeeling world should call these things by less ambiguous names. But Harris had a real hatred of oppression and injustice, and was zealous and sincere in his desire to assist the weak and helpless who through error or circumstance lay stricken on the battlefield of life. He came to England in 1859 to preach his gospel, a developed Swedenborgianism. The author of the *Life of Laurence Oliphant*, who was certainly not prejudiced in the preacher's favour, describes the sermons as being—

"Of a very remarkable character, full of lofty enthusiasm. Not even the most careless could be unimpressed by the fervent and living nobility of faith, the high spiritual indignation against wrongdoing with which the dingy pages, badly printed upon bad paper and in the meanest form, still burn and glow" (XVIII, vol. ii, p. 4).

The following extract from the *Arcana of Christianity* (which Harris asserted to be a direct revelation from Heaven) is characteristic:—

"One almost sees the Lord uplifted in spirit upon that great industrial cross, whereon His faith was to be crucified through nineteen centuries of inversion in the broken hearts and bleeding bodies of the innumerable toilers of the globe" (XIX, vol. i, p. 199).

Harris had been for a short time associated with

Davis. Afterwards, he made no special claim to healing powers and says nothing about cures effected through his agency; but he would, when asked, lay his hands upon the sick. He maintained that he had unravelled the mystery of the "Inner Breathing," first taught by Swedenborg, which, when fully mastered, would render man "invulnerable against decease." Whether through the inner breathing or by virtue of a generally abstemious life, he undoubtedly preserved his bodily and mental vigour unimpaired to an advanced age. But he eventually died in 1906 in his eighty-fourth year.

CHAPTER VI

THE FALSE CLAIMS OF MORTAL MIND

CHRISTIAN Science is in more senses than one a retrogression. It brought back into prominence the objective steadfastly kept in view by Mesmer, Deleuze, and Davis, viz., the liberation of humanity from the shackles of real or imagined physical disorder. Of late years, the tendency is to seek wider fields of usefulness, but the "false claim" of bodily sickness is still regarded as the Hindenburg line of the enemies of light. But in pursuance of this aim, Christian Science has by precept and practice deliberately turned from every touch of pity. The splendid zeal for the alleviation of distress which inspired some of the forerunners of the movement has no place in the modern gospel. It is said that a pamphlet published by Harris in early life with the title, *Suffer the little children to come unto Me*, led to the foundation of the New York Juvenile Asylum. Well it might, for through the tangled sentences, in the rough uncultured prose, quivers the flame of a splendid indignation which not even *The Cry of the Children* has surpassed. All this is gone. The elect must turn their eyes from the alleged plague-spots of man's contriving, from the moaning of the

multitude over imaginary ills, from the long procession of the disinherited who without cry or sense or knowledge pass through a non-existent misery to a merciful oblivion. The ugly elements of life are but a delusion of mortal mind. To escape all contact with them is the first duty of the faithful, as it was with the Epicurean of the pagan world. Robed in the conscious calm of a soul at ease, the votary will then be in a condition to help the less fortunate to deliverance from subjective burdens. A Man of Sorrows and acquainted with grief would be dreadfully out of harmony with the mode to which the new dulcimer of redemption is attuned. This is no mere captious criticism of a creed to the egotism of which the character of its adherents gives the lie. As will presently be seen, we have much to learn from Christian Science. We must begin by recognizing that those who are "in Science" do habitually, in Ruskinian phrase, "despise compassion." This aspect has been well presented by a shrewd and by no means unkindly critic in a recent work.

"The religion of Christian Science . . . is entirely egoistic in expression. Nothing that promotes the happiness and well-being of an individual can of course, be without effect on the happiness and well-being of those around him. But for Christian Scientists there is no recognized service to their fellows, beyond the force of their example. Poverty and sin, like sickness, are illusions, errors of 'mortal mind,' and cannot be alleviated by material methods. There are no charities or institutions of any kind for social service in connexion with the Christian Science Churches. If a man is sick he does not need drugs; if poor he has no need of money; if suffering, of material help or even sympathy. For the cure in all cases must be sought within" (VI, p. 282).

So much for the precept. Here is a picture of the practice of Christian Science at its best, fairly drawn by Mr. Stephen Paget :—

“Mrs. — is a widow and an old friend of mine. In February, 1905, her only child, a boy of 11, was in the last stage of a hopeless illness—mitral valvular disease, with rheumatism and dropsy. I had an opportunity of a few minutes’ talk with the Christian Science ‘practitioner,’ a sweet, gentle, earnest woman—and asked her if she really thought she would do any good. ‘Oh yes,’ she replied, with a smile of confidence, ‘I have never known a failure.’ ‘But,’ I suggested, ‘the boy is very seriously ill’; and I explained the nature of his complaint. Still confidently smiling, the practitioner replied, ‘We have had worse cases than this.’ I told her the best medical advice had been taken, and the doctors had all given the boy up. Upon which the lady remarked with gentle emphasis, ‘God has not given him up.’ That of course was conclusive, and I left her to do her best. I went away at ten o’clock, and then the Scientist seated herself by the patient, read to him from the Bible and Mrs. Eddy’s book, and exhorted him in some such language as this: ‘You must not think you are ill, my dear little boy. You are *not* ill; you *can’t* be ill. God would not make you ill. He made all things good, but not illness’; and so on and so on. The boy, I am told, heard her patiently but wearily, and at 1.30 he died. Then the practitioner gathered up her books and papers and went away, and that is the end of the story. Here we have Christian Science in a favourable light; all the same, it is not a pleasant picture, these falsehoods told to a dying child” (XX, p. 75).

Something of all this may be due to the personality of the real founder of the cult, the notorious Mary Baker Eddy. Surely the world has never known a similar example of a system of faith and works which enshrines vital truths, is capable of transforming life, and satisfies thousands of men and women of not less than average intelligence,

of which the initial driving force was an engine of so monstrous and grotesque a character. No doubt Mrs. Eddy was not quite sane. This does not make her salient characteristics less repulsive.

1. She appears to have been constitutionally incapable of speaking the truth. The following are a few of her imaginative efforts.

(i) In her *Autobiography* Mrs. Eddy states that her brother Albert "taught her Greek, Latin, and Hebrew," and that the "favourite studies of her childhood" were "Natural Philosophy, Logic, and Moral Science." It is morally certain that Albert Baker (a young man of considerable promise who died early) had no more than the ordinary schoolboy's knowledge of Latin with a smattering of Greek. It is quite certain that Mary Baker knew no more of any dead language than of the other sciences to which she would have us believe her mind so precociously inclined. She goes on to say that, when the light came, all her store of hard-won knowledge disappeared. "Learning was so illumined that Grammar was eclipsed." The last part of the statement is literally true. As the gamekeeper said to the boasting novice who had brought off a better shot than usual, "They will fly into it sometimes."

(ii) In the preface to *Miscellaneous Writings*, Mrs. Eddy refers to her second husband as "Colonel Glover of Charleston, South Carolina." As a fact, she married in 1843 a bricklayer named George Washington Glover, who left New England for South Carolina in order to improve his prospects. He continued to work at his trade and had no military rank (XXI, p. viii).

(iii) In connexion with the fall on the ice to which her disciples are accustomed to assign the beginning of Christian Science, Mrs. Eddy, writing to Julius Dresser on February 1st, 1866, said : " The physician attending said I had taken the last step I ever should." The insensate dolt who attended her made affidavit to the effect that the injury was in no sense serious, and flatly denied the words attributed to him.

(iv) In all her later writings, Mrs. Eddy refuses to admit that she was in any way indebted to her original teacher, Phineas P. Quimby. The latter is represented as having been a mesmerist or electrical healer. In one place she even asserts that it was she who guided Quimby into the way of truth. The facts are that (a) everything which can be called a doctrine in Mrs. Eddy's message (except, perhaps, the demonology and the blasphemy, which are quite her own) belonged to Quimby, though, of course, not all of them were original with him. The very name " Christian Science " is Quimby's. (b) Quimby had given up " animal magnetism " for many years before Mrs. Eddy met him. (c) Mrs. Eddy had many times, often with rather fulsome emphasis, proclaimed that to Quimby she owed all that she valued in life. A quaint poem on the occasion of his death ends as follows :—

" Rest should reward him who hath made us whole,
Seeking, though tremblers, where his footsteps trod."

When these tributes were republished by Julius Dresser in 1883, Mrs. Eddy tried to account for them by the plea that she must have been under the malevolent influence of Quimby's " animal magnetism " (XXI, p. 378 ; XXII, p. 38).

Many other instances might be cited.

2. Her megalomaniacal blasphemy is simply revolting.

(a) In her *Retrospection and Introspection* she tells us that when she "was twelve years old" she disputed with the authorities of the Church, who were about to receive her as a member, on the subjects of predestination and everlasting punishment. Even if this had been true, to give prominence to it would have been an outrage on decency. It happens to be quite untrue. She was received into Communion at the age of *seventeen*, and there is no record of anything like disputation having taken place (XXIII, p. 238).

(b) Later in the same book we find the following :—

"No one else can drain the cup which I have drunk to the dregs as the discoverer and teacher of Christian Science."

"No person can take the individual place of the Virgin Mary. No person can compass or fulfil the individual mission of Jesus of Nazareth. No person can take the place of the author of *Science and Health*, the discoverer and founder of Christian Science. Each individual must fill his own niche in time and eternity" (XXII, p. 47).

(c) In 1893 she published *Christ and Christmas, an illustrated Poem*. It contains the following stanza :—

"As in blest Palestina's hour,
So in our age,
Tis the same hand unfolds His power,
And writes the page."

Opposite to this is a picture of Christ enthroned. He is represented as holding Mrs. Eddy by the hand. With the other hand Mrs. Eddy unfolds a scroll bearing the legend, "Christian Science."

For the credit of this woman's disciples it should be said that this was more than they could stand. The voice of protest was so vehement that the Pastor Emeritus—sensitive, like all autocrats, to the wind of spontaneous popular disfavour—withdraw the book from circulation, afterwards, of course, giving a highly “idealized” account of the reason for her action (XXI, p. 307).

(d) In *Miscellaneous Writings* occurs the following:—“We shall claim no especial gift from our divine origin” (p. 3).

(e) In the *Church Manual* (1908) one of the by-laws directs that if Mrs. Eddy (who in the previous year had spent £20,000 in the purchase of a house in Boston and about as much more in making it fit for the habitation of the Leader) should be in want of a servant, the Directors “shall immediately appoint a proper member of this Church therefor, and the appointee shall go immediately in obedience to the call. “He that loveth father and mother more than me is not worthy of me” (p. 69).

3. Her rapacity was boundless. As far back as 1870 the fee for a course of twelve lectures was \$100. “Under divine inspiration” Mrs. Patterson (as she then was) raised the charge to \$300. In 1888, the price remaining as before, the number of lectures given was reduced from twelve to seven. Led, perhaps, thereto by the example of Mesmer, Mrs. Eddy bound some of her early students to hand over to her 10 per cent. of their “takings” as healers. One result of her greed was a constant succession of law cases. In 1872, a Mrs. Vickery sued her for the recovery of \$150 paid for instruction

which the plaintiff found to be worthless. Mrs. Eddy defended, but lost. In 1877 one of the many "favourites" whom Mrs. Eddy distinguished and with whom soon afterwards she quarrelled, brought an action for the payment of money due for literary work and recovered \$350. In other actions Mrs. Eddy was plaintiff, endeavouring to secure money alleged to be owing for tuition. She lost them all. But by the sale of her books, lecture fees and some astute manœuvres in the matter of land and mortgages, in which she was "guided by divine love" and advised by a disreputable lawyer who was afterwards driven from the bar, she built up an enormous fortune. In 1907 she was able to transfer to her trustees property valued at \$913,000. A lawsuit in 1893 disclosed the fact that her personal estate then amounted to \$100,000. This did not prevent her from returning her property in 1901 as \$19,000 for purposes of taxation (XXIII, *passim*).

The prospect of losing a few dollars was always sufficient to drive her into an almost maniacal outburst of fury. Indeed, apart from her obsession of "malicious animal magnetism," it was about the only thing which ever moved her indignation. At one time it was reported that some of her followers, instead of buying *Science and Health*, were copying extracts and reading them at gatherings of the faithful. This produced the following diatribe. It is worth quoting, because it is eminently characteristic of the writer, and may be compared with the later editions of *Science and Health*, in which there is every reason to believe that "Mother's" share was reduced to microscopic proportions (XXV, p. 292).

“To the question of my true-hearted students, ‘Is it right to copy your works and read them for our public Services?’ I answer: It is not right to copy my book and read it publicly *without my consent*. My reasons are as follows: First: This method is an unscen form of injustice standing in a holy place. Second: It breaks the Golden Rule—a Divine rule for human conduct. Third: All error tends to harden the heart, blind the eyes, stop the ears of understanding, and inflate self; counter to the commands of our hillside Priest, to whom Isaiah alluded thus: ‘I have trodden the winepress alone; and of the people there was none with Me.’ Behind the scene lurks an evil which you can prevent; it is a purpose to kill the reformation begun and increasing through the instruction of *Science and Health with Key to the Scriptures*; it encourages infringement of my copyright [*Rem acu tetigisti*. Though this be madness, yet there is method in’t], and seeks again to ‘cast lots for His vesture’ while the perverter preserves in his own consciousness and teaching the name without the spirit, the skeleton without the heart, the form without the comeliness, and the sense without the Science, of Christ’s healing” (XXI, p. 301).

The “eclipse of Grammar” in places almost reaches the total phase; but there is no obscurity about the writer’s views on the main point.

4. Considerations of space permit no more than a passing reference to the blackest stain on Mrs. Eddy’s reputation—her diabolical attempt to revive a disordered belief in witchcraft. Fortunately it failed. Like some of the ebullitions of her blasphemous egomania, it proved to be detestable to the more level-headed of her disciples. Had it succeeded, the outcome might have been no laughing matter. Those who desire to know more of it, of her mania for quarrelling, of her vindictiveness, or of the strange story of Spofford’s conspiracy-to-murder charge, are referred to the series of

articles in *McLure's Magazine* from January, 1907, onwards, in which every statement is supported by documentary proof, to Mark Twain's *Christian Science* or to Mr. Podmore's compressed account in *Mesmerism and Christian Science*. The "authorized" lives of Mrs. Eddy are, of course, valueless, except as evidence of the extraordinary influence which she acquired and maintained over a larger section of her followers.

How then did it come about that such a woman originated a religion of which only the ignorant can speak with contempt or indeed without genuine, if unwilling, admiration? To find an adequate answer to this question is to come near to an understanding of one of the most perplexing problems of our time. Let us examine it carefully and without prejudice.

1. A convincing psychology of communities has yet to be propounded. But at least we are forced to recognize the fact that the larger historic movements have been far more often independent of moral qualities in their founders than we have been accustomed to suppose. The influence of a noble and single-hearted purpose borne through years of anxious toil is deep and penetrating, probably immeasurable. But it lives more often in the silent, unconscious witness of the lives of unborn generations than in the title-deeds of a visible organization. The real "Colensoites" to-day are men and women who for the most part only know the Bishop's name as a site of battle. "Every schoolboy knows" something of Marat, Danton, Hébert, Barère. How many educated Englishmen could give a clear account of the

political activities of Mounier, Malouet, Condorcet ?

“ What right,” says Dr. Maudsley, “ have we to believe Nature under any obligation to do her work by means of complete minds only ? She may find an incomplete mind a more suitable instrument for a particular purpose. It is the work that is done, and the quality in the worker by which it was done, that is alone of moment ; and it may be no great matter from a cosmical standpoint, if in other qualities of character he was singularly defective—if indeed he were hypocrite, adulterer, eccentric, or lunatic ” (CXXVII, p. 257).

What then is the motive power in those historic developments which colour thought and inspire action ? Not reason alone. No really dynamic movement has ever been wholly rational. Reason may clear the way for those who are already seated at the wheel ; she does not drive the engine. Intuition, usually allied with sentiment, may do much. When the Merchant Shipping Bill was under discussion, the unreflecting crowd saw more clearly than its chosen deputies. Hysteria, with or without the element of obstructiveness, is often powerful for a time. The people who led the “ white slavery ” agitation were not always mentally deficient or dishonest. It was only after years of discussion and overwhelming exposure that the last sane supporter of the Claimant fell away. It appears to be legitimate to postulate a kind of psychological microbe of which the activity is enhanced or diminished by conditions of intellectual heat or mist or wind or slime, and whose life history is best studied in the culture tubes of sociology. But none of these factors, whether brought to bear separately or in combination, are sufficient to ex-

plain the impetus of those processes of thought and action which in all ages have done most to impress on society the stamp of character. The really moving factor, the real touchstone of successful enterprise, is the power to satisfy the unexpressed, for the most part unconsidered, longings of the human soul. The Desire of all Nations claims an inviolable Throne. Success or failure in meeting the demands of these hidden aspirations is the key to the riddle of the little systems which have had their day. We shall find, if we look carefully, that Christian Science can show a title to an easily appreciable measure of success.

2. The restoration of sick folk to health and an active life is not the most important part of Mrs. Eddy's achievement. That a large number of persons, once chronic, perhaps even helpless, invalids, are now hale and strong through the adoption of the principles of Christian Science need not be doubted. Analysable results are not easy to get. Dr. H. H. Goddard made an attempt to arrive at a just conclusion some years ago in America. But it appears that he had to accept the patients' own version of what had been the matter with them in most cases (LVIII, vol. x, p. 444). A chapter entitled "Fruitage" has been inserted in the more recent editions of *Science and Health*. It is little more than a string of names. But it is quite reasonable to suppose that Mrs. Eddy was by no means the only scientist who (from whatever cause) was for years bedridden and for years afterwards hardly knew what illness meant.

3. But the effective force of Christian Science extends far beyond the healing of the body.

(i) Mrs. Eddy showed remarkable insight in appropriating the name given to his system by Quimby. Critics have complained that Christian Science is neither Christian nor Scientific. This is undeniable. But the founder knew the value of a name. The realism of scholastic philosophy is by no means dead. Humanity reacts to a label. Chiropraktors and osteopaths really are more lordly people than rubbers and bone-setters. Unconsciously we are so well aware of this that we even demand appropriate names for characters in romantic fiction. Somebody has justly observed that we should not have believed in Iago's villainy if he had been called "Ensign James." Business firms and play producers habitually keep this principle in view. To have laid hold of the two elements in life which occupy a large share of the attention of the modern world, to have made their names subservient to her gospel, and to send out her scriptures with the deft addition of a third object of general desire was a stroke of something very much like genius.

(ii) Mrs. Eddy probably knew very little of Mohammedanism. But she follows Islam in this, that no external trappings are allowed to detract from the force of the message which she wished her "true-hearted students" and sympathizers to absorb. In bare and ugly temples in which no preaching is allowed there is little danger of a mere evanescent enthusiasm being aroused. Those who affirm their adherence to the principles of Divine Healing usually do so because for them "the key" does in fact unlock the door of an inner chamber of the soul, not because they are enthralled

by an eloquent sermon or captivated by the beauty and dignity of stately ceremonial.

(iii) The unconquerable optimism which Christian Science engenders is a phenomenon of the highest significance.

"The deliberate adoption," says Mr. William James, "of a healthy-minded attitude has proved possible to many who never supposed they had it in them; regeneration of character has gone on on an extensive scale; and cheerfulness has been restored to countless homes. The indirect influence of this has been great. The mind-cure principles are beginning so to pervade the air that one catches their spirit at second hand. One hears of the 'Gospel of Relaxation,' of the 'Don't Worry Movement,' of people who repeat to themselves, 'Youth, health, vigour!' when dressing in the morning, as their motto for the day" (CXXIII, p. 95).

A competent writer, in sympathy with, though not actually in, "Science," has fastened on the elimination of fear as the cardinal principle in Christian Science teaching.

"Fear," he says, "has had its uses in the evolutionary process, and seems to constitute the whole of forethought in most animals; but that it should remain any part of the mental equipment of human civilized life is an absurdity. . . . As soon as it becomes unnecessary, fear becomes a positive deterrent, and should be entirely removed, as dead flesh is removed from living tissue" (CXXIV, pp. 21, 23).

Another exponent of similar views is even more emphatic.

"Man," in his opinion, "often has fear stamped upon him before his entrance into the outer world; all his life is passed in bondage to fear of disease and death, and thus his whole mentality becomes cramped, limited, and depressed, and his body follows its shrunken pattern and specification.

. . . Is it not surprising that health exists at all ? Nothing but the boundless divine love, exuberance, and vitality, constantly poured in, even though unconsciously to us, could in some degree neutralize such an ocean of morbidity. (CXXV, p. 54).

How nearly related this is in effect to the supreme confidence of the devout Christian will be clear to all. Mr. G. W. E. Russell once wrote in reference to Mr. Gladstone, "It was this attitude of *solus cum Solo* which made him so utterly indifferent to danger of every kind. He was physically and morally the bravest man I ever knew."

(iv) The call to the Christian Scientist is essentially the same as that which drove into the desert the eremite of old. It is a call to come out from contact with the unholy thing. Not into a wilderness of umber-coloured sand, but rather into a new world, a promised land, a Turneresque "atmosphere," always there but unrealized—the neophyte is led. He must, while still holden in the bonds of seeming matter, go about his daily work, clothe, feed, and house himself and those who are dependent on him, pay his taxes (though in this particular, Mrs. Eddy, as will be remembered, shows him a more excellent way), and generally comport himself as a good citizen of this delusive sphere. But he is in the world, not of it. To him the words of life (especially as contained in the earlier editions of *Science and Health*) are more real and infinitely more important than the most sonorous leader in *The Times*.

It is not pretended that this detachment is to be acquired without considerable effort on the part of the convert.

"To attain the ability," says one teacher, "thus effectively to direct the mind, the New Thought advises the practice of concentration, or in other words, the attainment of self-control. To this end one should set apart times for silent meditation by oneself, preferably in a room where the surroundings are favourable to spiritual thought" (CXXVI, p. 51).

But the effort is represented as amply recompensed by the result.

"Whenever the thought," we are told, "is not occupied with one's daily duty or profession, it should be sent aloft into the spiritual atmosphere. There are quiet leisure moments by day and wakeful hours at night when this wholesome and delightful exercise may be engaged in to great advantage. If one who has never made any systematic effort to lift and control the thought-forces will, for a single month, earnestly pursue the course here suggested, he will be surprised and delighted at the result, and nothing will induce him to go back to careless, aimless, and superficial thinking" (CXXV, p. 51).

Gradually his whole mental outlook changes, and he clearly discerns the truth which every honest suburban dimly perceives—that a man may lead two lives, of which one in time becomes little more than a disordered dream. Moreover, from the falsest claims of all, the disease which undermines courage, the injustice which provokes to anger, or the misery which withers the words of consolation, he turns deliberately away. These phantoms are not allowed to invade the new life—at any rate, until he is so firmly set in his environment that the illusions of mortal mind may do their worst and assail his serenity in vain.

Now, let it be observed that this is merely an extension—an exceedingly clever and well thought out extension—of a process in which we all believe,

which in some sort we practise. A wise parent would lose no time in getting rid of a nurse who regaled her charges with details of the Belgian atrocities or the mystery of Merstham tunnel. No one seriously expects murder in the nursery. It is enough that the child's life be "shielded" from contact with sordid or horrible realities, and stuffed full of clean and stimulating dreams of generosity, chivalry and self-effacement. A boy is not sent to Winchester in order that he may consciously imitate William of Wykeham, or Moberly, or Selborne. What is hoped is that a vague consciousness of great tradition may combine with the placid beauty of Meads, the majesty of College Tower, and the shapes and stones of Chamber Court, to furnish him while still malleable with an enduring antidote against the shameless vulgarity of an age of advertisement and self-assertion. Christian Science only carries a widely recognized principle a little further, and teaches how the eternal verities are met at all stages of life's journey by leaving the beaten paths and turning to the higher ground.

(v) The prophetess has been well advised in making a belief in, and the desire to attain to, goodness, the foundation stone of the system which she offers. How concepts of sickness, cruelty, wickedness, and all else that is evil came to trouble "mortal mind," Mrs. Eddy does not profess to explain. Or, to be quite exact, the only explanation that is attempted is so rambling and disconnected that nothing can be made of it. This, however, is unimportant. It suffices that, in Mr. James's words :—

"For Christian Science evil is simply a *lie*, and anyone

who mentions it is a liar. The optimistic ideal of duty forbids us to pay it the compliment even of explicit attention. Of course, this is a bad speculative omission, but it is intimately linked with the practical merits of the system we are examining. Why regret a philosophy of evil, a mind-curer would ask us, if I can put you in possession of a life of good ? ” (CXXIII, p. 107).

The essential point is that mortal mind can recognize and appreciate goodness. “We needs must love the highest when we see it.” Let it hold to that as the one ultimate reality and all else will follow, with results of immensely practical importance.

“In just the degree,” says Mr. Trine, “in which you realize your oneness with the Infinite Spirit, you will exchange dis-ease for ease, in-harmony for harmony, suffering and pain for abounding health and strength. To recognize our own divinity, and our intimate relation to the Universal, is to attach the belts of our machinery to the power-house of the Universe. One need remain in hell no longer than one chooses to ; we can rise to any heaven we ourselves choose ; and when we choose so to rise, all the higher powers of the Universe combine to help us heavenward ” (CXXVIII, pp. 29 and elsewhere).

With this effort to attain a beneficent and realizable end nothing else is allowed to interfere. There are no difficult dogmas open to attack on ethical or historical grounds. No one need believe that Mrs. Eddy is “of divine origin ” unless he likes. No doubt *Science and Health* is “inspired.” But inspiration is a conveniently elastic term ; and a simple theory of development may be made adequately to account for the jettisoning of much of the early encumbrance. For the Christian Scientist as for Matthew Arnold the object of faith and hope is an enduring power, not ourselves, which makes

for righteousness. But, whereas the Theist, even when he has got rid of *Aberglaube*, has still to reconcile belief in a God of love and justice with a world of suffering and wrong, the Christian Scientist can aspire to goodness in the sure conviction that, when mortal mind is purged of error, the beauty of holiness will no longer be marred by shadows of human frailty.

In short, the Beatific Vision is offered to him here and now. Nor is it offered altogether in vain, as anyone who has had much intercourse with Christian Scientists will readily admit. It is an immense accomplishment that men and women in large numbers should have attained to contentment and peace of mind, to a consistently clean, untroubled outlook, to the presentation of a picture—not indeed complete in every detail, for one thing is conspicuously lacking—but of firm, true drawing and richly blended colours, which can hardly fail to carry its message to the world and can answer assault and ridicule by the plain evidence of the illumination of a soul at rest.

CHAPTER VII

NON NOBIS, DOMINE

“**W**ITH Catholics,” said the late Mr. W. S. Lilly, “it is of faith that miracles have never ceased.” The Protestant position is not so clear. Officially, most Protestant Churches disregard modern miracles altogether, though there have been some interesting exceptions. In practice, a steady stream of claims to miraculous power has flowed through all the dissensions and divisions of Christendom since the time of Constantine. In one age, it is a shrine or a relic which is most deeply venerated; in another, a miraculous well; in a third, a living person who holds in trust the gifts of holiness and healing power.

Something has already been said of the attitude imposed upon the thoughtful scientist of these latter days towards the thaumaturgical tradition (pp. 63, 73, 76). It is proposed in this chapter to develop the same theme on lines which, it is hoped, the reader will regard as clear and helpful.

I. It is inevitable that we should begin with a statement of what we mean by Miracle. Many definitions have been attempted. Perhaps none are wholly satisfactory. “Miracle,” said Renan, “is the unexplained”—not a bad definition, but

clearly insufficient. Of more detailed statements, the classical definition in *Murray's Dictionary* certainly deserves its reputation. This runs : "A marvellous event occurring within human experience, which cannot have been brought about by human power, or by the operation of any natural agency, and must therefore be ascribed to the special intervention of the Deity, or of some supernatural being ; chiefly an act (e.g., of healing) exhibiting control over the laws of Nature, and serving as evidence that the agent is either divine or is specially favoured by God."

It is hardly necessary to linger over the most obvious *caveat* which might be entered here, viz., that an event which was held to be brought about by supernatural agency would not of necessity be the act of God. Christian thought is far removed from the idea of rival supernatural systems always present to the minds of Origen and his contemporaries (CI, iii, 32 ; CII, c. xxiii) ; and, although even modern theologians seldom explicitly disavow their belief in the possibility of the intrusion of malignant powers of evil into the world of sensible experience, yet in practice the choice for the modern world is between acceptance of Divine miracles and rejection of all miracles. As Archbishop Trench forcibly puts it : "Other miracles can no longer be played off against Christ's miracles ; the choice which remains now is between these and none" (C, p. 70).

The scientist must demur to the expression "control over the laws of Nature" for reasons which are fully stated in Chapter VIII. Here it is only necessary to point out that if an event, which

antecedently was held to be in the very highest degree improbable because of some well defined natural law, were nevertheless clearly shown to have occurred, all succeeding estimation, and almost certainly all expression, of the law would be sensibly modified. It is interesting to note that Newman, whose lack of scientific information was balanced by a fine logical perception, hardly ever makes this mistake. On more than one occasion he speaks of miracles as events which "contravene the physical laws of the universe" (CIII, p. 188, and CIV, pp. 154, 8) thereby avoiding the usual pitfalls and making use of an expression to which no exception can be taken. Perrone is no less clear-sighted. "*Deus regit legibus universalibus, quæ pariter non sunt nisi in conceptu nostro*" (CV, vol. i, p. 47). Still, an event can easily be conceived which it would only be slightly incorrect to describe as exhibiting "control" over natural laws.

But the real imperfection of this definition is closely akin to that which has rendered barren nearly all the discussion over miracles in which, throughout the Christian ages, men have so readily engaged. If the existence of Divine power be asserted, no definition can be quite adequate, because in proportion to the strength of the belief will be the disposition to minimize the difference between any one act of God and any other act. The "*miraculum*" becomes more prominent as the "*mirabile*" grows fainter. If it be denied, the definition becomes an attempt to bring before the mind an inadmissible event.

In like manner, in all controversy over the

a priori possibility of miracle, the contest is ultimately between Theism and Atheism. Even those who, like Spinoza, sought to base their denial of the possibility of miracle on an exalted conception of the Divine Nature, have been forced into a position indistinguishable from Atheism; since it has speedily become apparent that their thesis can only be maintained by robbing the object of their veneration of every attribute of Godhead. Nor was Hume in better case. He did not, it is true, deny the possibility but the credibility of miracles; but in maintaining their absolute incredibility he implicitly denied, not the probability, but the possibility of the unknown quantity which, according to the statement of his famous canon, alone could balance the equation.

Nor is it quite certain that the *a priori* objection to miracles is as dead as Huxley conceived it to be. That no one now would formally deny either the possibility or the credibility of the miraculous almost goes without saying, for science cannot deny the possibility of anything which is not a logical contradiction, and credibility is only a question of evidence. But it often appears as though the intense desire of every scientific thinker, whose work is at all comprehensive to strengthen the conception of Nature as one unified whole, has not been sufficiently taken into account. A constructive worker of this kind will doubtless with courtesy and in perfect sincerity maintain that adequate evidence will satisfy him of the truth of anything; but all the time he is probably formulating a sub-conscious protest after this fashion:

“My dear sir, you really are a little tiresome.

Why should you want to disturb our nicely ordered scheme by positing a miraculous element? In the old days you constructed a system whereby the Cosmos was supposed to consist of two spheres—a Nature and a Supernature; and you thought that beings from the Supernatural intruded from time to time into the Natural and disturbed to a greater or less extent the orderly sequence of events. That, as you know, was a dualism which we did not find to our taste. Now you have been so obliging as to change your view of things, and you hold that a miracle belongs to natural order as truly as an eclipse or a thunderstorm. For this relief much thanks. But you still want us to admit some element of interference, and we must tell you frankly that we do not like it. Each step we take makes not only order but unity more and more apparent. Darwin's demonstration of organic evolution was, perhaps, the first stage in this building process of which those outside the natural sciences were aware. Then we went on to link the organic with the inorganic world. We have, as you are aware, made some little progress with this since urea was synthetically prepared in 1827. Now we are driven to conceive of all matter as ultimately a mode of energy; and at the other end of the scale the discovery of the subliminal consciousness makes it plain that, while the relation of the spatial and extended to the non-spatial and non-extended remains as impenetrable a mystery as it was to Leibnitz, all the mental processes which we ordinarily associate with consciousness can and do go on while consciousness is in abeyance. In fact, we discern consciousness rising from this sub-

conscious mentality and falling into it again, very much as the fountains in Trafalgar Square sometimes throw their water to a certain altitude and sometimes come short of that altitude. A pretty picture, is it not? We think that you only spoil it by trying to bring in an intrusive something for which we can find no use."

But, at most, the antecedent objection goes no further than this.

To the assertion of a miraculous happening, the reply of modern science is: We need not cavil at the imperfection of definitions or the disturbing influence which you appear to postulate. Since you rate natural order as highly as we do ourselves, we will merely ask you to produce the evidence for the events narrated. If that stands our tests, we will undertake to place the events somewhere, if not now, at no very distant point of time. The first and most important question is, as Mr. Thompson has lately reminded us (CVI, p. 5), Did the alleged events happen or did they not?

II. But next we have to inquire, What are the events which we must class as "miraculous?" On this point (so far as it concerns healing of the body) the late Mgr. Benson has given a most useful "lead." In the *Dawn of All* (1911) he pictures the world of the later twentieth century under the sway of an all but universal (Roman) Catholicism. Lourdes is, of course, in greater repute than ever. Much labour is expended over the determination of the miraculous element in the cures effected there. "All cures that could be even remotely paralleled in the mental laboratories (where, apparently, an exalted psycho-therapy was

practised) were dismissed as not evidently supernatural"; the remainder were carefully recorded. As examples of the "miraculous" type, the author selects one case of optic atrophy and one of fracture of the spine with the usual accompaniments of nerve degeneration and paralysis (CVIII, pp. 125, 130, 133). These examples are admirably chosen. Many others would be quite as much to the point; and even in regard to conditions which could not be included in Mgr. Benson's classification, a consideration of the percentage of cures might throw an entirely new light on a series of occurrences. Unfortunately, this clear-sighted perception of the meaning of a "miraculous" cure is not always found. We may contrast with it the inability to grasp fundamental points shown in the selection of the following case. It is given by Dr. Dearmer as an example of the power of "Prayer at a Distance" (IV, p. 382). This would not be in itself of great importance, but it appears that Fr. Figgis also thought it "the purest perversity to deny that the cure . . . was a direct answer to prayer" (CIX, p. 268). Evidently a certain mistiness of vision which it is worth making an effort to dissipate, is widespread. The story is said to be taken from the Life of Fr. John of Kronstadt.

CASE 7. RECOVERY OF TWO CHILDREN FROM
DIPHTHERIA

"In October, 1889, in Moscow, in the family of a certain Mr. S—ff, two children fell ill of diphtheria. Notwithstanding the measures at once taken, the illness developed rapidly and increased. A consultation of doctors was held, and it was decided to resort to tracheotomy. One can imagine the despair of the children's parents. Having lost hope in human aid, they sent a telegram^t to Father John

of Kronstadt begging for his prayers. The Reverend Father received this telegram in the morning, at the time when he was performing the early Liturgy, and, as he usually does, immediately after reading the telegram, he addressed his earnest prayer to God. Meanwhile, what was taking place in Moscow? It had been decided to perform the operation of tracheotomy at two o'clock on that day, but already at nine o'clock a.m. (at the very time of Father John's prayers in Kronstadt, some 500 miles away) the doctor who remained on duty noticed an improvement, which progressed as rapidly as the illness had previously developed. The doctors, having assembled at the appointed time of two o'clock p.m., found such certain improvement in the condition of the children that the operation was pronounced unnecessary. In three to four days both children completely recovered."

Now, what has scientific medicine to say to such a case as this? Obviously, that it is not even worth investigating. In the first place, the account is almost certainly full of inaccuracies. That two children of the same family should contract diphtheria about the same time is natural enough; but that they should reach the same stage of the illness at the same hour, so that a dual tracheotomy was proposed, would be a very remarkable coincidence. It may be true, but it is not probable. Again, if the necessity for tracheotomy was recognized about 8 a.m., it is most unlikely that the operation would be delayed till 2 p.m. When we find that this extraordinary delay is said to have been recommended in the case of both children, we feel that we are dealing with corroborative detail which is certainly not calculated to give verisimilitude to the narrative.

But even if every detail in the story could be shown to be absolutely accurate, we should be

exactly where we were before. No one would have a right to say that the children did not recover as a direct result of Father John's intercessions. No one would have a right to affirm that they did. Probably, in every diphtheria outbreak, something like the following occurs about once every three weeks in any large isolation hospital. The membrane grows rapidly, and unless breathing can be relieved a fatal result is almost certain. Preparations for immediate tracheotomy are made. For sufficiently obvious reasons it is not usual to wait six hours before setting about it; but before the operation is actually begun, it is noticed that breathing is becoming easier. The surgeon "stands by," and in a quarter of an hour all immediate danger of suffocation is past. Eventually the child recovers without having undergone tracheotomy at all. So commonly does this happen, that if, during Father John's long and beautiful life, he frequently prayed for sufferers from diphtheria, it would be rather strange if on one or two occasions his prayers did not coincide with abandonment of tracheotomy. And, of course, human nature being what it is, the "successes" are remembered (presumably, this was not the only occasion on which the Father prayed for a diphtheria patient, yet it seems to be the only one of which any record had been preserved), and the failures (if such they can be called) are forgotten.

It would be a very different matter if it could be shown conclusively that out of, let us say, fifty consecutive cases of diphtheria, in which Father John or any other "healer" exercised his "powers," there were fourteen in which it was decided to

perform tracheotomy, and that in twelve of these the abandonment of the operation coincided with the offering of prayer or the laying on of hands or the exercise of "telepathic healing" or whatever it might happen to be. If this were proved to have occurred, it would be only reasonable to hold that cause and effect were clearly demonstrated. But that one solitary instance should be quoted as though it afforded good evidence of miraculous interposition merely shows how easily misunderstanding may arise, not through any wilful "darkening of counsel," but by careless thinking and inability to bring not very abstruse concepts into a correct focus.

III. Accepting, then, Fr. Benson's standard, we proceed to ask, How are we to determine whether such events have taken place (A) in bygone times, (B) in our own day?

(A) With regard to the miracles of past ages, it is not necessary to add much to what has already been said in Chapter III. Science, *qua* science, has but little to say about them, except in so far as scientific conclusions may be of use to the theologian or the historian. Fr. Figgis has well pointed out (CIX, p. 43) that there is a sense in which a Christian agnosticism is quite possible. Natural science must always be agnostic in reference to any specific phenomenon which is not open to demonstration. Thus, it is obvious that it is not possible to demonstrate either the affirmative or the negative of the proposition that on some day about the year 28 of our era at some house in Capernaum our Lord raised the daughter of Jairus from the dead. A person may have excellent reasons for believing

that this event took place as described ; but they are not scientific reasons. For the rest :—

(a) There is certainly a striking general resemblance between one and another group of recorded miraculous cures, from whatever source they are taken.

(b) They also bear a general similarity to the recoveries noted at Nancy and La Salpêtrière and other centres of the same type.

(c) It is impossible not to be struck with certain difficulties which frequently arise when detailed statements are made. The improbabilities to which reference has just been made in connexion with Case 7 (p. 141) are very commonly encountered.

(d) Again, in accounts of this kind, a disposition to “ pile on the agony ” has been noted again and again. Some years ago, an account was published of a miraculous restoration of sight. In the patient’s own account we read that “ at the age of 7 ” he began to “ suffer from his eyes ” ; when he was 10, “ a rapid change for the worse set in ” ; a year later he “ was quite blind ”—and so on, until the reader wonders how he can have had any eyes left when he reached the age of 20 (CXXXII pp. 58). Yet investigation showed that he had attended an ordinary elementary school, and had, at any rate, learnt to read and write ; nor could any proof that he had been taken to any hospital or had consulted any doctor on account of his eyes ever be discovered. This kind of thing does not, of course, necessarily invalidate testimony as to the main occurrence, but it emphasizes the importance of insisting on the prosecution of full and painstaking inquiries. On the other hand—

(e) There are certainly cases described in the *Annales de Lourdes* of twenty-five to forty years ago which are sufficiently striking to make one wish that some more recent case of the same kind was forthcoming.

(B) But in respect of the present time it is possible to be much more precise.

(1) We begin by an exact statement of the question to which an answer is sought. It may be put in the following form :

Is there or is there not some force or power or "gift" at work in the world to-day which not merely in theory may, but in sober fact does, effect cures transcending anything which is known to result from the operation of purely "natural" means ?

(2) That such a power does exist has been freely asserted. Thus :

(a) An article on the "Gifts of Healing" appeared in the *Church Times* not long ago. In the course of it the writer says :

"The gift of healing is simply a human gift . . . like the gift of music or any other gift. . . . The gift transcends all knowledge ; it cures diseases considered incurable. Consumption, cancer, blindness, deafness, cripples (*sic*), etc., this is within our practical experience to-day, so that it stands to reason that the art of curing by medicine will gradually disappear as the gift of healing grows and develops" (CX, February 18, 1910).

(b) Mgr Benson is less crude, but no less convinced. One of his characters

"was amazed to find that even by the end of the nineteenth century cures had taken place (at Lourdes) for which the most modern scientists could find no natural explanation" (CVIII, p. 133).

(c) Equally emphatic is the Rev. P. Dearmer, D.D.

"In the New Testament," he tells us, "is described the highest spiritual power that was ever exerted upon earth. . . . The therapeutic works . . . described so simply and unstrainedly as works and signs and powers were done and have been done ever since. Men have denied them . . . but the great ages of faith are yet before us . . . and we are learning . . . that the spiritual energy which was displayed in the life of Christ is about us now, working by the same laws, accomplishing the same miracles of conversion and of healing—real as nothing else is real, etc., etc." (IV, pp. 113-4).

(3) It may perhaps be taken for granted that for the establishment of these very striking propositions some sort of evidence is necessary. Not even the most visionary enthusiast that ever lived would contend that medical science ought to accept without investigation or inquiry statements which, if found to be accurate, would profoundly modify our ideas of pathology and therapeutics. The only question is, What evidence is necessary?

(4) But here again we find ourselves in a region where every landmark is familiar, for we are all estimating the evidence in favour of this or that therapeutic measure every day. We need not go one step out of the path of dull, daily routine. Moreover, the fact that we propose to concentrate our attention on conditions from which recovery by natural means is not generally expected, simplifies the task a hundredfold.

The inquirer will, of course, be bound to accept any such condition which is offered to him. But in order to keep a clear picture before our eyes, it may be well to take a few examples. It does not matter which are selected. Mgr. Benson's

imaginary cases (optic atrophy and fractured spine) would be quite suitable. Indeed, optic atrophy would be a particularly happy subject for investigation, because the element of error in diagnosis is here reduced to a minimum. In order to meet Dr. Dearmer's views (that "the spiritual energy . . . displayed in the life of Christ is about us now, accomplishing the same miracles of healing—real as nothing else is real"), it would be convenient to include a typical example of the "therapeutic works" which, according to him, "have been done ever since,"—let us say the case of a man who has been blind from birth. Aortic disease of the heart will do well enough for a third.

If we should prefer to keep to our own country, we may note that the "Spiritual Healing" movement (in its present phase) dates back about twenty years. It is freely asserted that by its power the worst as well as the lightest maladies are being lifted from our mortal frames. A few cases, similar to those mentioned above, from the records of the last ten years, are all that it is necessary to produce in order to establish the truth of this contention; perhaps five or six. That will give an average of .5 per annum, surely not an extravagant demand. And in each case all that is required is definite proof of the previous and subsequent condition of the person in whom the Divine healing is alleged to have taken place.

Or, if it be thought unreasonable or pedantic to keep strictly to those conditions from which alike on pathological and clinical grounds recovery has hitherto been regarded as improbable, we might extend the scope of the inquiry, in order to include

other diseases about which all that we can say is that (apart from radical cures by operation) the percentage of recovery is extremely low. Such are cancer (carcinoma), osteo-arthritis, pernicious anæmia, and, of course, many others. The exact recovery rate is not accurately known, but it cannot be much more than 2 or 3 per cent. The following case, recorded by the late Sir H. T. Butlir, in which no treatment, mental, material or "spiritual," could be traced, is typical of these interesting and rare recoveries.

Early in 1903 a gentleman, 75 years old, had an epithelioma of the lower lip removed in New Zealand. It recurred, and a second operation was performed six months later. Again the disease recurred, and the glands on the same side of the neck became enlarged. The lip and glands were removed in February, 1904. In the summer of that year he left New Zealand, came to England, and consulted me in September. There was no sign of recurrence. But in November the glands beneath the angle of the jaw at the extreme end of the scar were enlarged. I removed the contents of the anterior triangle of the neck, in which there were glands which were on the point of breaking down. In the following July (1905) there was disease on the posterior border of the sterno-mastoid muscle. With the assistance of Mr. Harold Simmons, of Bournemouth, I cleared out the posterior triangle, cutting away the muscle and most of the soft structures of the neck. But the disease was on the point of breaking down, and was adherent to the surrounding structures and even to the bone, so that I had to leave lumps of it here and there, and to close the wound with the certainty that the patient could not live more than a few months. The wound healed by first intention. Within a short time all that side of the neck down to the clavicle became swollen, full, and very hard. Dr. Simmons suggested that one more attempt should be made to clear away the remainder of the disease. But I would not consent, and pointed out to him that we

had run very close to killing the old man at the last operation, and that the present conditions were much more unfavourable than those which we had dealt with. (This was in October, three months after the operation.) From that time matters began to improve. The induration gradually cleared up until not a trace of disease could be felt. And at this present time, nearly five years after the last operation, the patient is in perfect health. In this case there was no attempt at treatment, whether local, general, or by the influence of the mind (CXIV, 1910, p. 1468).

If, then, we allow a sufficient margin and can obtain 10 per cent. of cases of complete recovery after treatment by some form of "Spiritual Healing," the establishment of the latter as a curative force of the first magnitude is assured beyond the reach of controversy. For this a carefully kept case-book is necessary. The advantage of this plan is not (as one writer has rather naïvely suggested) that sceptical curiosity is gratified by its perusal, but simply that it avoids the necessity of asking for quite so many cases. If, however, objection is taken to this demand, it can be waived. The request, then, would be that the "Spiritual Healer" (who, we learn on good authority, "is always ready to impart information, or offer opportunities for *bona fide* medical investigation, to any duly accredited medical man who shows that he is acting in good faith") provide five cases of recovery from these varieties of disease out of a total of fifty treated; or, if no case-book is forthcoming, a total of fifteen out of an unknown number.

(5) Yet, that this is the procedure which a scientific investigator would adopt in endeavouring to ascertain the truth is not merely called in question,

but is specifically denied by some eloquent and able apologists of "Spiritual Healing." They seem to think that scientific medicine is hopelessly antagonistic, and that, when staggering proof of the reality of the power in question is offered for its consideration, it will always attempt to discredit the proof by tendering some more or less futile "explanation." If the evidence cannot be explained away by some plausible method, resort will be had to something less convincing. In any case, an effort will be made to get rid of inconvenient facts somehow, *recte, si possis, si non, quocunque modo*.

No clearer expression of this view is to be found anywhere than in the interesting article in the *Commonwealth* to which reference has already been made. The passage is worth quoting at length :

"The reasonable evidence, as it may truly be called, provided by the innumerable cases of sickness and disease, healed after the laying-on of hands with prayer, is usually rejected by the medical men taking up this position, [i.e., of stubborn incredulity,] on grounds which appear to an impartial observer hardly worthy of serious consideration. These are :

"The patients may be merely neurotics ; their own evidence and that of their friends is therefore worthless—either their alleged complaints have no real existence, or they are cases of 'functional neurosis' ; that being so, the alleged cures are clearly due to 'suggestion'—because 'suggestion' is known to be efficacious in some cases of this kind.

"Or, where organic disease (said to be incurable) has been medically diagnosed and all trace of it has disappeared, and the patient regained health after spiritual healing, it is obvious that the original diagnosis was incorrect.

"Or, failing either of these two explanations, recovery is affirmed to be that for which the medical faculty can still

find no more enlightening explanation than that which is conveyed by the term 'spontaneous'; which means, one presumes, that the disease suddenly disappeared for no cause whatever.¹

"Such are the only explanations which the scientist has been able to put forward to account for the cures effected by spiritual means" (LVII, Nov. 1911).

This is quite clear, though it is not easy to believe that it can seriously be held that any scientific medical man, with a reputation which he does not wish to lose, would meet cogent proofs on the lines indicated above. We have, it will be remembered, suggested that of conditions in which both for *a priori* and *a posteriori* reasons we should not expect a favourable issue, five or six cases of recovery would be sought; and that of other malignant and intractable diseases the number required would be five cases out of fifty treated or fifteen cases out of an unknown number. It really is not easy to see how a demand for proof could be whittled down to smaller dimensions than this.

Let it be assumed that these proofs were forthcoming, and that, on inquiry, they were found to be firmly established. Does the writer of the article, does any person in full possession of his faculties, suppose that, in the face of evidence such as that, medical scientists would stand doggedly on one or other of those very singular "grounds" which have been selected as the prop and stay of their implacable hostility? Let us consider them.

¹ This must mean that the writer sees no difference between the two statements, (a) There is no cause for *x*, (b) I do not know what the cause is. In the case of cancer, we are as ignorant of the reason why some cancers should recede as we are of the real nature of the malignancy of the

(i) That the cases were really conditions of functional neurosis, and that the cure was due to suggestion.

This would indeed be a shifting quicksand, and would not, of course, receive a moment's consideration.

(ii) That the diagnosis was mistaken.

Out of the question. *Ex hypothesi* in some of these cases clinical observation would have been confirmed by microscopic examination and chemical analysis, and in these the certainty of the diagnosis would be practically absolute. It would really be refreshing to hear the shout of laughter which in any scientific gathering would greet the attempt to show that six cases of complete recovery from what expert ophthalmologists had declared to be atrophy of the optic nerve were to be explained by the supposition that the diagnosis was in each case a mistake.

(iii) That they were "spontaneous" cures.

Absurd. They were far too numerous. Five or six cases of the first kind which had recovered, or fifteen of the other varieties of disease, all taken from the results of a particular "cult" over a space of about ten years, could not be explained on any such assumption.

(6) At this point it is permissible to express a hope that some exponents of the "Spiritual Healing" movement may be disposed to give clear and categorical answers to the following questions:

(a) Do they agree that the canons of investigation overwhelming majority. A "spontaneous recovery" is, of course, one of those inexact expressions to which reference was made in Chapter III (p. 68).

which have been here laid down are correctly stated and fairly represent the method which a scientific seeker after truth ought to follow ?

(b) If they do not agree, will they be good enough to state, no longer in general terms, but plainly and explicitly, wherein they think the demand for proof unreasonable ; and further, what evidence, in their opinion, an investigator ought to require before answering in the affirmative the question which is propounded on p. 145.

It is, of course, possible that some of them may have made independent inquiries of their own, though, if so, it is strange that they never think it necessary to describe them. When, for example, Dr. Dearmer says that "many of us have personal knowledge of individual cases" (of "organic" diseases healed by spiritual means) (IV, p. 100) he may refer to cases which he not only "personally knows" by hearsay, but which he has personally investigated. If so—

(c) May we have with as much detail as possible the evidential material on which these and similar assertions are based ?

(IV) Enough of the hypothetical. It is probable that the reader will now wish to know something of the results of recent inquiries into the practical effects of miraculous healing.

(1) Inquiry into "Spiritual Healing" by The British Medical Association

It was in January, 1909, that a Sub-Committee was appointed by the Council of the Association, at the request of the Metropolitan Counties' Branch, to investigate and report on the subject. "In ap-

pointing it, care was taken to make it representative of the different branches of the medical profession. It included general practitioners, physiologists, neurologists, and alienists."

The Sub-Committee first tried, by putting itself in communication with various persons who were known to be interested in the subject, to understand what was included in the term "Spiritual Healing." The answers to the circular on this point were decidedly interesting. It is, however, with the inquiry into the physical results of "Spiritual Healing" that we are immediately concerned. The following abridged account of the issue of this inquiry is taken from the Supplement to the *British Medical Journal*, July 15, 1911.

"The Investigating Sub-Committee found great difficulty in obtaining cases for investigation and in following up the cases submitted. Persons who have written and spoken a good deal on the subject did not see their way to put the Sub-Committee in touch with patients treated, or with those treating them. The only cases actually seen were provided by the Society of Emmanuel through the intermediation of the President, Mr. J. M. Hickson, and the Chairman of Committee, the Rev. Maurice Bell. The Rev. F. Boyd, Warden of the Guild of Health, also submitted some details of cases in writing to the Sub-Committee. The Investigating Sub-Committee spent two afternoons at the Hospice of the Society of Emmanuel and personally examined ten patients, afterwards communicating, where possible, with the former medical advisers of the patients seen. The patients, of whose cases particulars were given but who were not seen, were written to, and their statements compared with those of their former medical advisers. In each of the cases submitted a personal examination was made as far as possible, and the diagnosis verified by reference to the records of previous medical advisers or of hospitals. Three of the cases were seen a

second time at an interval of four months. Opportunity for subsequent examination, though requested, was not permitted.

"After carefully considering the evidence afforded by its investigations, the Sub-Committee is of opinion that there is no difference in kind between 'Spiritual Healing,' 'Faith Healing,' 'Mental Healing' and 'Psychic Healing.' All these forms seem to depend for their effect upon what is known as 'Mental Suggestion.'

"No evidence has been brought before the Sub-Committee which would bear out the contention often urged by so-called 'Spiritual Healers,' that a special 'Gift of Healing' is possessed by them.

"Curative suggestion may be brought into operation by various means, such as by the personal influence of one person over another, reinforced by appropriate surroundings, as in the consulting-room of the physician; by excitement engendered under the influence of the claims made publicly by the quack, as seen frequently in the cures wrought on public platforms; by the atmosphere of ecstasy and expectation pervading a shrine such as 'Lourdes,' and there is no reason to doubt that it may be induced by prayer, and the laying-on of hands by the 'Spiritual Healer' or by the priest. The surroundings may be different; the agent appears to be the same. In each case the receptive mental attitude of the patient is a most important factor.

"The investigations of the Sub-Committee have satisfied it that the ministrations of the 'Spiritual Healer,' as of any other person skilfully using suggestion in its various forms, may cure functional disorders and alleviate pain in organic disease. No evidence has been forthcoming of any authenticated cure of organic disease. The undoubted subjective improvement noted in some cases of organic disease treated by 'Spiritual Healing' can be equalled by treatment by other forms of suggestion for which no spiritual or supernatural claims are made."

(2) Report of a Clerical and Medical Committee of Inquiry

This Committee sat from 1911 until 1914. It consisted of ten clergy and ten doctors and one honorary member. The Chairman was the present Dean of Westminster. Sir Dyce Duckworth was Vice-Chairman. An account of its doings is to be read in a booklet, published in 1914, entitled *Spiritual Healing, Report of a Clerical and Medical Committee of Inquiry into Spiritual, Faith and Mental Healing*. In the summer of 1914 the sessions were suspended, and they have not yet been resumed. The results of the more practical part of the inquiry are embodied in *Appendix B* in the following terms :

“ INVESTIGATION OF CASES ”

“ The Committee have had a considerable number of cases brought to their notice, and the alleged diseases which had been treated by ‘ Spiritual Healing ’ included—Cancer, Cirrhosis of liver, Enlargement of thyroid gland, Arthritis, Hip disease, Raynaud’s disease, Angina pectoris, Secondary hæmorrhage, ‘ Swelling of legs,’ Pneumonia, Toxæmia, Abscess of liver, Erysipelas, Dysentery, Conjunctivitis, Dipsomania and other vicious habits, Epilepsy, Blindness, Deafness, ‘ Muscular paralysis,’ Neuritis, Disseminated Sclerosis, Tetanus, ‘ Brain Fever,’ ‘ Paralysis of bowel,’ Asthma, Neurasthenia and other nervous conditions.

“ In the greater number of cases, no medical evidence was obtainable. The only confirmation available as to the nature of the disease and the result of the treatment was offered by the ‘ Healers ’ or their friends. In some cases statements were received from patients that they had been cured or benefited by the treatment.

“ The Committee have particularly aimed at investigating any cases in which recovery would not be generally expected, i.e., so-called ‘ incurable ’ illnesses, whether treated

by clergymen or laymen ; but in no instance was medical evidence forthcoming to confirm any cure by 'Spiritual' or Mental healing of such disease. For example, in the cases of Cancer, Raynaud's disease and Disseminated Sclerosis mentioned above, it did not appear that the course of the actual disease was in any way retarded.

"In the following case, however, it was possible to obtain medical evidence both before and after treatment."

Particulars of six cases are then given ; but of these only two even approximate to the types indicated on pp. 146-9. These were :

"CASE 2. MALIGNANT TUMOUR OF THYROID GLAND

"Spiritual healing was not the only treatment used, as radium was applied twice for periods of five days ; and there was marked reduction in the size of the superficial growth each time, but the patient died of the disease in a few weeks, notwithstanding the temporary diminution in the external signs.

"CASE 3. PARTIAL PARALYSIS OF MUSCLES OF ARM

"The paralysis was due to neuritis of the brachial plexus, occurring five years previous to the treatment by spiritual healing. The patient was 'ministered to' ten times for an hour each day, and felt considerably better as regards his 'nerve tone,' and he thought there was some increase of power in the hand. When examined, some three months after this treatment, the muscles of the arm were still wasted and partially paralysed" (CXI, pp. 27-30).

The practical conclusion of the Committee is summed up in the following paragraph :

"The Committee are of opinion that the physical results of what is called 'Faith' or 'Spiritual' healing do not prove on investigation to be different from those of Mental healing or healing by 'Suggestion.' The term 'suggestion,' is used in this Report in a wide sense, as meaning the application of any natural mental process to the purposes of treatment" (CXI, p. 15).

(3) An Independent Effort

The present writer made many independent attempts to arrive at facts during the years immediately preceding the outbreak of war. Details of this inquiry are given in narrative form in the Appendix. It will be seen that the results were negative.

(V) It must not, of course, be inferred that, because these investigations have yielded no positive results, no cures of a truly miraculous character have taken place in our day, still less that none are ever likely to happen. Many persons have an instinctive shrinking from publicity, especially in respect of matters which are associated in their minds with intimate spiritual experiences. Moreover, it is not at all an unreasonable contention that the chill breath of investigation does in fact cool the ardour of faith, without which on any supposition no miracle can be expected to occur. In one of Mr. H. A. Jones' earlier plays, a plausible rogue is represented as saying to a detached man of science : "I must warn you that an attitude of cold scepticism seriously interferes with——" "The success of miracles?" interposes the other; "Yes, I've noticed that." This is intended as a gibe. It is actually a sober statement of fact. The accommodation of scientific exactitude to religious fervour is not easy to contrive. Lourdes is probably the best modern example of an attempt at adjustment which has met with any considerable measure of success.

But so far as ascertainable facts are concerned, the accounts of attempted investigation which have

been given in this chapter and the appendix seem to show that—

(i) Great difficulty is experienced in obtaining the evidence required, even in the case of persons who for obvious reasons can hardly plead that they dislike publicity.

(ii) Stories of extraordinary recovery dwindle to very ordinary proportions at the first touch of inquiry.

(iii) The very confident statements commonly made, examples of which are quoted on pp. 145-6, appear to have no solid foundation.

None the less, if any reader of this chapter knows of any definitely striking case of miraculous healing which has taken place within the last ten or twelve years in respect of any person now resident in the United Kingdom, he will greatly oblige by bringing it to the notice of the authors of the present volume.

CHAPTER VIII

THE TYRANNY OF TERMS

BEFORE passing from this part of our subject and turning our attention to the strictly scientific aspect, space must be found for an attempt to clear up a misunderstanding which seems to have derived from a source of error much commoner than it is generally thought to be—the obsession of terminology, especially in respect of the so-called “laws of Nature.” The frequent misuse of this very simple expression would not be sufficiently important to detain us were it not for the fact that (a) it is found in the utterances of men who have earned the right to speak with authority; (b) it is, as will presently be seen, strictly germane to the subject in hand.

In a book published not many years before his death, Fr. Figgis speaks of “the wearisome controversy about laws.” But with great respect for the memory of this illuminating writer, the controversy, however wearisome, is fated to continue, until clear thinking has dispelled the confusion which has arisen over a name. Indeed, the author’s next words would in themselves warrant a considerable measure of corrective controversy. He tells us that “a man’s free action by the law—i.e., the order—of his being can stop a cricket ball

and 'interfere' with the laws of gravitation." We are hardly surprised when we read a few lines further on, "there is thus no objection to speak of miracles as instances of a higher law" (CIX, p. 256). When we find that a man of Fr. Figgis' intellectual ability sees no objection to such an expression, we shall be prepared to find the same illusion prevalent over a wide area.

Such is in fact the case. A few typical instances may be cited :

I. The first occurs in the course of an "answer to a correspondent" in the *Healer* of June, 1911. It may, therefore, be taken as a semi-official utterance, and not a mere irresponsible expression of opinion on the part of the eloquent writer who signs herself "M.D."

"We know that, left to itself, the law of heredity of sin and disease claims fulfilment to the bitter end. But the law of heredity is not final : a higher law can supersede it. . . . Behind the law of heredity a higher law is at work.

"Even in the realm of physics we witness the phenomenon of the apparent breaking of a law, due to the intervention of a higher law. Of this Dr. Wendell Holmes gives a forcible illustration. 'There lies,' he says, 'a bit of iron. All the dynamic agencies of the universe are pledged to hold it in just that position, and there it will lie until it becomes a heap of red-brown rust. But see ! I hold a magnet to it—and lo ! it leaves them all—the lugging of the mighty earth, of the ghostly moon that walks in white (etc., etc.), of the awful sun (etc., etc.), it leaves the wrestling of all these forces . . . and springs straight to the magnet.'

"Could there be a better illustration of what takes place when a soul is brought face to face with its Redeemer ?"

From this remarkable statement only one conclusion can be drawn ; and it is this. The writer

is thinking of such "laws" as statute laws, which can certainly be broken, and Divine Laws (as those promulgated on Sinai), which can certainly be held to supersede lower laws. She has then taken the expression "law of Nature," and read into it a meaning derived from her conception of the other two kinds of laws.

Now, what is a "law of Nature"? Simply a statement of a certain order in which phenomena have been observed to occur under known conditions. When such phenomena are seen to take place uniformly, it is convenient to state what is believed to be a universal occurrence as a "law."

We do not know in any case that this order is invariable, or that the occurrences are universal. Sometimes we *do* know that a law, once thought to be absolute, must be modified, as in the case of Boyle's law. We do not know whether the "kraft und stoff" to which all laws of Nature relate have an objective existence or not. We do not even know how far the occurrences of which we are aware have any ultimate reality. In fact, the only thing we know about the laws of Nature is that it pays us to take them into account when we are doing experimental work.

Thus, to take a very simple illustration, Graham's law of the diffusion of gases lays it down that the rate of diffusion of a gas is inversely as the square root of its density. It is open to anyone to believe that an Omnipotent Being willed from all eternity that this should be so. A very fair number of scientific men would unhesitatingly declare their conviction that something like this has actually taken place. But the most convinced Theist and

the most determined Agnostic would unite in protesting against this enunciation of a "law of Nature" being confused with a Divine fiat. For let the reader observe how dire is the confusion, if this simple distinction is not kept in mind, and if writers persist in asserting (as many have asserted) that the "laws of Nature are the laws of God." Reference has already been made to the fact that "Boyle's law" is now known not to be so absolute as was once supposed. If the "laws of Nature are the laws of God" Boyle's law must be a law of God; in other words, a Divine decree. But which Boyle's law? The law as it was when Boyle first stated it, the law as it is to-day, or the law as it may quite conceivably be fifty years hence? Sixty years ago it was held to be a "law of Nature" that the molecules of a gas repelled one another inversely as the fifth power of their distance. This law has, in the light of fresh knowledge, been relegated to the scientific scrap-heap.

"Thou shalt not steal" is a law which is broken daily. Graham's law cannot possibly be "broken," for the simple reason that it is merely a statement of a general principle. If it were found to be erroneous, it would have to be re-stated; that is all.

It really would not be easy to imagine anything much more absurd than the "forcible illustration" which M.D. finds so satisfying. Of course, it is true that the general sum of energy manifested in the earth's attraction tends to keep the piece of iron in its place. But as soon as an amount of magnetic force is generated in the coil sufficient to overcome that fraction of the total terrestrial attraction which is acting in this way, the piece of

iron moves accordingly. In order to account for such movement, it is just as grotesque to postulate an "apparent breaking of law," or the "superseding of a lower law by a higher," or "the intervention of a higher law," as it would be in order to explain the startling phenomenon that occurs when a steam crane gets up enough power to overcome the inertia of the laden trolley, and, by winding up the chain, hoists our luggage from the deck of the *Invicta* on to Dover pier.

II. But we find the same odd illusion in much more exalted quarters. The following passage occurs on page 10 of *The Gospel of the Miraculous*, by the Bishop of London (1913):

"To say that the uniformity of Nature, as we know it, is the only law there is in Heaven or in earth, and that no higher law than we know here can ever obtain, is to 'crib, cabin and confine' the Lord of the whole world in a way which is simply ridiculous in His creatures.

* * * * *

"The laws of Nature are observed uniformities in Nature—nothing more. We believe that all miracles are in accordance with law, but according to a higher law than we know yet."

And in explanation of the expression "higher law than we know," he adds this footnote:

"For the justification of this phrase, see St. Augustine ('C. Faust.,' XXVI, 3): 'We say without impropriety that God does something "against Nature" which He does against what we know in Nature. But as for that supreme law of Nature which escapes our knowledge, because we are sinful or because we are still weak, God no more acts against that than He acts against Himself.'"

It must be accepted as a sign of grace that the Bishop realizes that some justification is necessary.

But it hardly seems to be a very satisfactory proceeding to take shelter behind ever so illustrious a Father of the African Church of long ago. For no one would care to criticize St. Augustine, who was not confident that he understood the exact connotation of the expression "law of Nature" in his day. Such confidence is probably uncommon. But we do know its meaning in our own day; and in the light of this meaning—the only possible one for us moderns, unless we are going to add confusion to confusion—the present Bishop of London and the erstwhile Bishop of Hippo are equally in error. Indeed, his present Lordship is at some pains to convict himself; for he first tells us (quite correctly) that "the laws of Nature are observed uniformities in Nature—nothing more," and immediately goes on to say, "We believe that all miracles are in accordance with law, but in accordance with a higher law than we know yet." But how in the name of common sense can one observed uniformity in Nature be higher than another? Either the Bishop is, without perceiving it, using the same word ("law") in two senses, or his corollary fails to yield any intelligible meaning. And by what ingenuity does the Bishop propose to show that God does not act against "that supreme law of Nature which escapes our notice," when the simple fact is that to speak of either God or man acting against *any* law of Nature—whether supreme or not, and whether such a proceeding were affirmed or denied—is about as sensible as it would be to canvass the possibility of "acting against" a proposition of Euclid? In all seriousness it may be wished that the Bishop would explain how one sets about

“acting against” Colles’ law or the law of conservation of energy.

III. For a still more profuse scattering of false logical currency the reader may turn to the chapter on “Miracle” in a recent book of rare candour, lucidity and ability, *Some Loose Stones*, by the Rev. R. A. Knox. “Always in the last resort,” says Mr. Knox, “a law implies a legislator.” He wants us to feel that “behind law we must be conscious of a personality at work. . . . The question remains for us, Does (God) ever suspend the action of these laws? . . . It is the standing problem of the theory of legislation, how such a thing as equity can be possible. If the laws are just, we naturally say, let them take their course.” There is a great deal more to the same effect.

IV. The only explanation of these doctrines which seems at all adequate is that the Bishop and the other lesser lights whose utterances have come before us are unable to rid themselves of the idea that this imperfect world is “governed” by various grades of “laws,” some higher and some lower, according to the several activities which they are designed to control. Some are poor things, the sort of laws which regulate the behaviour of matter at rest or in motion. But there are higher “laws” than these; and it is “according to them” that miracles, which appear to contradict the other laws, occur. We know very little about them “yet,” but we shall understand them better some day.

Well, it is a free country, and if people like to indulge these and similar fancies, it is not easy to see why anyone should be so churlish as to object. All that is necessary to observe is that these and other

picturesque notions are not covered by the perfectly plain and well-defined term "law of Nature." It would be interesting to know what theologians would say if scientific men began taking liberties with ecclesiastical phraseology, and spoke of a "counsel of perfection" as if it were a particularly eloquent pleader at the Old Bailey.

It is much to be wished that eminent divines and other theological experts would grasp the fact that even the most daring speculations of natural science do not attempt to soar into regions beyond the reach of our faculties or our reason. Our pretensions are of the most modest kind. We have scanned a small portion of the universe as our finite senses reveal it to us. How utterly insignificant is and must be the result of the most extended and elaborate research will be obvious to any one who bestows a moment's thought on the matter. As Mr. A. J. Balfour has forcibly pointed out :

"If the current doctrine of evolution be true, we have no choice but to admit that with the great mass of natural fact we are probably brought into no sensible relation at all. I am not referring here merely to the limitations imposed upon such senses as we possess, but to the total absence of an indefinite number of senses which conceivably we might possess but do not. . . . To suppose that a course of development, carried out with the object not of extending knowledge or satisfying curiosity, but solely with that of promoting life, on an area so insignificant as the surface of the earth, between limits of temperature and pressure so narrow and under general conditions so exceptional, should have ended in supplying us with senses even approximately adequate to the apprehension of Nature in all her complexities, is to believe in a most astonishing coincidence" (CXXXI, p. 351).

But within the limits possible to us, we observe

that a wonderful order seems to prevail, an order so perfect that in thousands of experimental efforts, given a certain antecedent, we can infer a known consequent with the utmost confidence, and we know by the hard logic of an undeviating experience that experimental work, leading to further advance in knowledge, becomes impossible if we do not take into account the fact that under certain circumstances a constant sequence appears in the occurrence of phenomena. For the sake of convenience we describe this orderly sequence under very many heads as so many "laws of Nature." That there are other "laws" of a different kind in the world is sufficiently obvious; the difficulty is that, whereas nobody thinks of confusing the laws of political economy with the laws of entail, the term "law of Nature" is put to a use which even Humpty Dumpty would have thought excessive. If a scientific man were to say that he disagreed with Whistler's canons of art criticism, but thought that most of them would be promoted to deaneries, he would be regarded as having attempted to turn out a rather heavy and recondite joke. When a devout lady regards the lifting of a piece of iron by a magnet as an example of "the apparent breaking of a law due to the intervention of a higher law," it seems to be commonly accepted as quite a sane observation. Perhaps Froude's jeremiads on the subject of modern education had some truth at the bottom of them.

V. An excellent instance is afforded of the extension of this confusion of terms into a strange (and wholly false) natural philosophy of miraculous healing in the article in the *Commonwealth* which has earlier in this book been used to point a moral.

The article is in the form of a conversation between three friends. It is represented as taking place *his diebus*. It is interesting to observe that the protagonist who fortifies the cautious and rather vague pronouncements of the Priest, and withstands the quavering septicism of the Doctor, is described as "a Layman." In real life laymen seem to have stood curiously aloof. At any rate (unless they happened to be professional healers) they seem to have allowed saving truth to be urged by the clergy and members of the more resourceful sex. Still, as Thackeray said, in the land of make-believe anything may happen ; and here we have the long-sought layman taking the lead. He evidently knows his own mind, and is not afraid to give utterance to his conclusions.

" 'Isn't disease on the physical plane precisely what sin is on the spiritual ? ' said the layman. ' I mean that both are a breaking of law, God's law. Disease and sickness are abnormal, contrary to nature ; therefore our nature, normally, always resists disease. Is not that so ? '—to the Doctor.

" 'Certainly,' was the reply. 'That is the principle upon which all therapeutic measures are based. The physician aims at assisting Nature to repel the invasion.'

" 'But,' continued the layman, 'you would not regard the fact of death in the same light as the fact of disease, I suppose ? Death occurs in the normal course of things in Nature, and is therefore a law of Nature, as we know it. So there is nothing contrary to our sense of the fitness of things in God's making use of the law of natural death in the government of the world. He is merely applying one of His own laws. Normally, death comes to pass without any prelude of sickness or disease of any kind ' " (LVII, 1911, pp. 149-50).

It will, perhaps, be most convenient if, having

noted that the argument is based on a theory that "laws of Nature" are "applied" like natural forces, we first take the layman's inspiring views and then turn our attention to the ready assent which is accorded to them by the medical member of this weighty conference.

(1) "Disease and sickness are abnormal, contrary to Nature."

"Nature" presumably means the entire order of observed phenomena. How any phenomenon, whether it be a pathological process or an anti-cyclone, can be "contrary" to this it is not easy to see. In any case, if "disease and sickness are abnormal, contrary to Nature," so must be a great many other things. In Chapter III it was made fairly clear that in the human body methods of repair which involve disease and methods of repair which do not involve disease are so closely identical that what is predicated as essentially characteristic of the one it must be equally allowable to predicate of the other. It really is unreasonable to ask the scientist to believe that the fibrotic changes which make up chronic Bright's disease are "contrary to Nature," while the exactly similar changes which take place round the broken ends of a bone in the early stages of the formation of callus are in accordance with Nature. Both are attempts at repair. One is very detrimental to the health of the individual, the other is not. That is the only difference between them. Perhaps the writer will ascertain from his friend "the Layman" whether he thinks that the re-uniting of two pieces of broken bone is "abnormal" and "contrary to Nature," and if not, why not.

Of a similar kind are some *obiter dicta* by the Rev. C. O'Flaherty, M.B., Ch.B., and, as he is a frequent contributor to the current literature of "Spiritual Healing," it may be well to examine them.

"Bodily disorder cannot be the handiwork of the Spirit of order; it is the outward counterpart of disorder on the spiritual plane" (CXII, August, 1910, p. 226).

Also:

"Disease is a disorder which jars upon the harmony of Nature" (CXII, January, 1911, p. 7).

Here is an exponent of "Spiritual Healing" who has presumably received a scientific education. Yet he is unable to see that he is simply playing with terms. "Bodily disorder" is a somewhat loose phrase which is commonly used to denote any bodily condition which is a departure from a more or less arbitrary physiological standard. It may, and often does, represent a process, which is as orderly from its earliest manifestation to its most remote sequel as the movements of the planets round the sun. Let us take any one of those manifold "disorders" which accompany old age with the same persistency as grey hairs or the arcus senilis. We will suppose the case of a man of advanced years whose arterics have hardened and whose blood tension has, in consequence, gone up. Step by step, in perfectly orderly sequence, further changes take place, until some sudden strain causes an artery, which, owing to its anatomical position, is unable to resist the strain, to give way. One artery in the brain is so commonly the seat of this accident that it is often called "the artery of cerebral hæmorrhage." What follows? Suffering

and discomfort, both physical and mental, and (usually) death at no very distant period. Here we have an instance in which the patient suffers from such "bodily disorders" as arterio-sclerosis, hypertension, apoplexy, hemiplegia, and probably others which supervene. It is quite possible that an all-loving Father wishes His children to escape these terrible inflictions, and that, by some inscrutable means, He is not only able but willing to remove the effects of them when they have occurred. Science has nothing to say against such a view, except, perhaps, to ask that any very confident expression of it may be delayed until the evidence of actual clinical results can be sifted. But it must protest, in the name of reason and common sense, against the repudiation of such "bodily disorder," on the ground that it "cannot be the handiwork of the Spirit of order" or because it "jars upon the harmony of Nature."

(2) "Our nature normally always resists disease."

Our nature does not always—normally or abnormally—do anything of the kind. There is always some resistance to acute incursions, even in the most enfeebled constitution, and the more healthy and vigorous the individual, the more effective will such resistance be. But acute incursions by no means make up the whole army of diseases which afflict mankind; indeed, they appear almost insignificant when the conditions under survey are those which actually threaten human life; while it must be remembered that, when they do kill, it is far more often than not in old people whose power of resistance has been reduced to a minimum. The prognosis in an attack of lobar pneumonia in a

child is seldom bad. In the case of an old man over 80 it is invariably very grave. But the main thing is that we should recognize the fact that reaction to injury or decay is very frequently indeed the beginning of a fatal disease. Nor is it easy to see how this could well be otherwise. The reader is probably aware that, just as embryonic man climbs up his own ancestral tree, so in a complex organism like the human body the life history of earlier types is reproduced in more complicated forms. Now, in all protoplasm, whether it be unicellular or very highly differentiated, there is always what may be called (it is very difficult to express this in popular terminology) an up-grade and a down-grade. In the latter condition (katabolism), the universal reaction to injury begins, so to speak, to turn traitor to the life of the unit, until in a very high proportion of cases life ceases as a result of the processes which, in the anabolic stage, maintained it in healthy vigour. Very roughly expressed, this may be taken as a summary of the life and death of protoplasm, whether in the form of an amœba or a man.

Still, though our nature does not always, normally, resist disease, and although the writer of the article in saying that it does is falling into the common error of arguing from the particular to the general, it may readily be conceded that "our nature" does in a large number of cases resist disease. But, then, what about all those other things to which the body reacts in a manner exactly analogous to its reaction against disease? May we infer from this undeniable fact that they also are "contrary to Nature" and all the rest of it? In the passage which we are considering, cause and

effect seem to be somewhat confused. It will, therefore, be the most satisfactory as well as the fairest plan simply to substitute one of these other external influences for the word "disease." The passage will then run :

"Isn't extreme cold on the physical plane precisely what sin is on the spiritual ? I mean, that both are a breaking of law, God's law. Extreme cold and a low temperature are abnormal, contrary to Nature ; therefore our nature normally always resists extreme cold. Is not that so ?"

Well, is not that so ?

(3) "Normally death comes to pass without any prelude of sickness or disease of any kind."

Normally or abnormally, death never comes to pass without prelude of sickness or disease of some quite easily ascertainable kind. Death, except as the immediate result of some antecedent morbid condition—which may vary in duration from the fraction of a second to half a lifetime—is unknown.

In the first place, the great majority of mankind dies as the result of more or less definite diseases. Even when here and there an individual reaches extreme old age with all his organs in an unusually healthy condition, there is nearly always a hardening of the tissues, which (according to the parts of the body affected) is duly described in all medical textbooks under various technical names, and which in the natural course of events leads to death. In the tiny minority which escapes even this condition (and such cases do occur) death takes place as the result of failure on the part of some important organ to perform its allotted task. But this failure is caused by lack of nutrition. And (in the absence of

any hardening process) this lack of nutrition is brought about by an insufficient supply of elements in the blood or failure of trophic influences in the nerves, conditions to which the familiar names of anæmia and neurasthenia are given. Pathologically, no distinction whatever can be drawn in these various morbid processes according to whether they begin at the age of 20 or 90. The corollary to the abolition of disease, or, in other words, to the total suspension of all morbid processes, could only be immortality with all vital forces absolutely unimpaired. To the pathologist the calmest, most peaceful end of an unusually healthy life, that slowing into a terminus which we all instinctively desire as the fate of those we love, is as much a "death from disease" as a death which takes place as the result of cholera or diabetes.

(4) The Newer Pathology of "the Doctor."

It will be seen that "the Doctor" begins—good, guileless man—by according a hearty assent to the proposition that "our nature, normally, always resists disease," and asks for no enlightening as to the exact connotation of that "blessed" word, "normally." He goes on to affirm that "that is the principle upon which all therapeutic measures are based." It is quite interesting to reflect how strange a spectacle would be presented by medical science if this were true. But it is permissible to ask him—and though he is but a creature of fancy, he is quite as much of an entity as one of those laws of Nature which the pseudo-scientists seem to think that it is possible to break—whether he has *never* touched exuberant granulations with caustic or blue-stone, whether he *never*

in the whole course of his blameless life ordered tepid sponging or an ice-pack in a case of hyperpyrexia, and whether, when the dream-day's work is done, and he sits in slippered ease by his study fire, he never reflects that medical science owes much of its peculiar fascination to the fact that we can never learn enough of the detailed principles as to when reaction requires to be stimulated, when to be gently assisted, and when to be met by forcible repression. Finally, he declares that "the physician aims at assisting Nature to repel the invasion." The last words are true enough as far as they go. Perhaps in the realm of dreamland he specializes in zymotic diseases and has not heard of any other variety.

CHAPTER IX

THE MACHINERY OF MIND

BEFORE we proceed further it is necessary that the non-medical reader should be furnished with some idea of the mechanism by which the mental processes of which mention has been and will be made in this book are carried out. Nothing but a presentment of the barest outline of the main essentials will be attempted. It is hoped that this chapter and the glossary of technical terms at the end of the volume (p. 335) will at least be sufficient to enable those who wish to understand the subject, but have not been through a course of anatomy and physiology, to feel that they are not left helpless when they try to visualize some physiological action, called by an unfamiliar name and operating in a region which they are quite unable to locate.

I. Anatomy of the Brain and Nervous System

(1) THE BRAIN.

The human brain, well cased in bone, occupies very nearly the whole of the space between the vault and base of the skull (Fig. 2). It is divided into four main portions :

(a) The *Cerebrum*, forming by far the largest part of the brain, bi-lateral like all the rest. Its function is, of course, of the first importance. In

the *cortex* (or outer fringe) reside the centres of sensation, memory, motor activity (or, if we prefer the name "kinæsthesia"), reasoning, and so on.

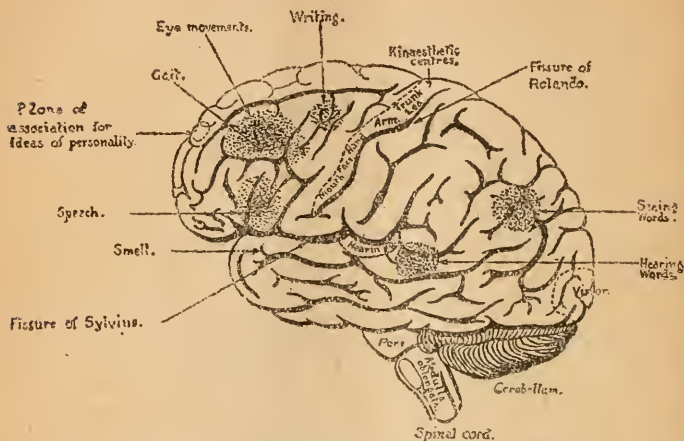


FIG. 1.—Surface of Left Cerebral Hemisphere, Cerebellum, and Medulla Oblongata (*Alex. Hill*).

In the above diagram the modern name "kinæsthetic centres" is used because it is extremely probable that the "motor areas" (as they used to be called) are really sensori-motor, and that so-called "voluntary" movements are produced when a sensory impulse overflows and is transmitted by association fibres to the neurones which are directly connected with the cells of the anterior horn of the spinal cord (see Fig. 4).

The sensory areas of smell and vision are almost entirely on the inner aspect of the brain; and the sensory area of hearing is mainly embedded in the fissure of Sylvius.

The speech centres are much more elaborate than are shown in this diagram. Our comparatively detailed knowledge of the centres which control speech, recognition of words, etc., is due to the information gained from clinical observation and post-mortem evidence in a large number of instances. In course of time there is little doubt that evidence will be accumulated which will enable us to map out many other areas with equal precision.

Some at least of the emotional centres are here. Fig. 1 shows some of the principal "areas" which have been mapped out. In the white matter (see Fig. 2 for its extent) numberless nerve fibres pass in all directions and on all kinds of errands. It

also contains certain empty spaces, called *Ventricles*.

(b) The *Cerebellum*, lying below and at the back (Figs. 1 and 2). This is, perhaps, the part of the brain which is least well understood. It is certainly concerned with the co-ordination of move-

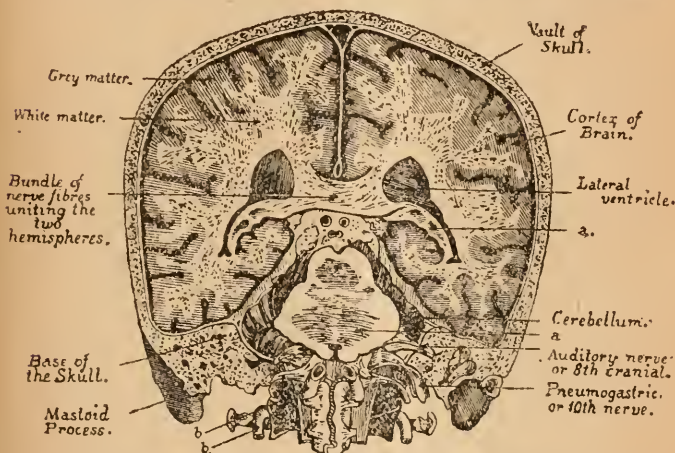


FIG. 2.—Section of the Brain at the level at which the front part of the Spinal Cord leaves the Brain, looked at from the front (*Gray's Anatomy*).

In the above diagram are shown—

- (i) The relation of the Brain to its bony protective covering.
- (ii) The close connexion between the Cerebrum and Cerebellum.
- (iii) The hollow chamber of the Lateral Ventricle.
- (iv) Some of the Cranial Nerves leaving the Brain.

a, a. Patches of non-cortical grey matter.

b, b. Arteries for the supply of the Brain and its membranes and for skin and muscle outside the skull.

ments and the maintenance of equilibrium. Removal or extensive disease of the cerebellum seems to cause strangely little disturbance of normal life; but we have still much to learn of its true character.

(c) A number of relatively small structures at the base of the brain, to which the comprehensive name *Mid-Brain* has been given. These are mainly

composed of bundles of *neurones*. But there are also cell-stations for many afferent fibres (Fig. 3); and probably there are here centres which regulate heat production and the light reflex which can be observed in the eye.

(d) The very important *Medulla Oblongata*, situated at the point at which the brain tapers off into the spinal cord (Fig. 1). This contains the most important of the "lower centres," e.g., the cardiac, the "vaso-motor" (contraction and dilatation of blood-vessels), respiratory, deglutition, etc.; also innumerable cell stations for sensory nerve fibres.

(2) The SPINAL CORD runs from the medulla through a protective bony canal formed by the articulations of the vertebræ with one another and with the skull, very nearly the whole length of the backbone.

(3) THE NERVES.

From the brain and spinal cord, through tunnels in the bone or inter-ossous spaces, forty-three pairs of nerves (twelve from the brain and thirty-one from the cord) are given off (Figs. 2 and 4). These divide and subdivide as they make their way to various structures in the body, becoming, of course, smaller and smaller as they go. Eventually tiny threads go everywhere—to skin and muscle and blood-vessel and gland and bone. Long before they have split up into their terminal branches they have passed beyond the range of vision by the naked eye, and can only be detected by the aid of the microscope. The whole system is rendered still more complex by the fact that:

(a) In many cases these nerves join with one

another to form *plexuses*, from which nerves of sufficient size and importance to receive separate names are given off. Thus, our old friend (or enemy), the *Great Sciatic Nerve*, is made up of a trunk known as the *lumbo-sacral cord*, and the first, second and the greater part of the third sacral nerves.

(b) There lies in front and at the side of the vertebral column a chain of pieces of nerve tissue, called *ganglia*. These are joined together by filaments and make up the *Sympathetic Nervous System*. These ganglia are also united by filaments to the central nervous system, and give off countless other filaments which are distributed mainly to the blood-vessels and internal organs.

(4) STRUCTURE OF NERVE TISSUE.

(i) *Convolutions of the Brain*.—In all the higher mammals, the surface of the brain presents the appearance of a large number of deep fissures with intervening ridges. The latter are the convolutions. Man has many more convolutions than any other animal. We are thus enabled to map out the surface of the brain into certain areas. Of these, we know definitely that some are associated with various bodily functions, and year by year we add to and correct our previous knowledge (Fig. 1). A vast amount of what we should like to know has not extended beyond the limits of reasonable conjecture, and much has not even got so far as that.

(ii) *Grey and White Matter*.—If any part of the brain or spinal cord is cut across, it is at once seen to consist of greyish and white patches. In the brain the grey matter lies mainly on the surface

A-B. Middle line of the body.

(a) Pyramidal cell in the Rolandic area of the cortex of the cerebrum. (b) Dendrites. (c) Axis cylinder processes from various types of cells. (d) Collateral branches from descending neurone. (e) Important collateral branch going to other cerebral hemisphere. (f) Collateral branches from pyramidal tract in spinal cord to make connexion with cells in anterior horn. (g) Axone of descending neurone passing in medulla oblongata to the other side. (h) Terminal branch of axone connecting up with (i) a cell of the anterior horn of the grey matter of the spinal cord. (j) Axone of second descending neurone going to (k) muscle and (l) and tendon. (m) Skin. (n) End bulbs in true skin. (o) Collateral fibres of afferent neurone going to tendon. (p) Cell in ganglion on posterior root of spinal nerve (see Fig. 4). The main branch from this (q) goes up through one or other of five (possibly more) tracts in the white matter of the cord to make connexion with (r) a cell in the medulla which by its axone (c) makes connexion with (s) a cell in a special area of the base of the brain. This again gives off another axone which links up with (t) a cell in the cortex of the cerebrum known as the "nerve unit of association." This is connected with the pyramidal cell (a) from which we started.

But there are other important branches from (p). Thus (u) a descending branch and (v) join up with the cells of the anterior horn and so form the mechanism of spinal reflexes. Another branch (w) is connected through (x) a cell in the posterior horn of the grey matter with (y) cells in the cerebellum, the function of which is not accurately known.

The reader will note that this diagram merely shows some of the paths taken by an efferent impulse from brain to muscle and by an afferent impulse from skin to brain. No attempt has been made to represent the connexion of the "lower centres" in the medulla and elsewhere with distant points. *Mutatis mutandis* the same mechanism obtains, short circuited in many places in a similar manner. But there are probably thousands of connexions in the telegraphic system of the human body which are not yet fully understood.

(cortex) of the convolutions, diving down to line even the deepest of the fissures. But there are comparatively large portions of grey matter elsewhere, of the function of which our knowledge is still rudimentary (Fig. 2). In the spinal cord, on the other hand, the grey matter is in the centre, while the white matter lies outside (Fig. 4).

The *grey matter* is found to consist of an enormous number of cells, and the *white matter* of the longest processes (called *axis cylinder processes* or *axones*) which come off from them (Fig. 5). Each cell with its various processes, long and short, makes up one *neurone* (Fig. 3). All this is supported and

held together by a delicate tissue, not in any way nervous in structure, known as *neuroglia*, so that we may say that the whole of the brain and spinal cord is composed of so many *neurones* held in position or bound together by *neuroglia*. This will be more readily understood if we consider the—

(iii) *Structure and course of a Neurone*.—Every nerve cell (which is, as might be expected, highly differentiated, but is otherwise similar to other protoplasmic cells) gives off, as has been said, several processes (Fig. 5). The smaller are called *dendrites* and enable one cell to keep “in touch” with others. Much work remains to be done on them. The long or *axis cylinder process* enables the cell to make contact with distant structures. Thus, let us suppose that an impulse is conveyed by direct volition, by reflex action, or by mechanical stimulus to that part of the *Rolandic area* which controls the movement of “flexion” (or bending) of the little finger of the left hand (Fig. 1). The right side will be affected. How many cells are involved we do not know; but we may take one and see what happens. This is shown diagrammatically in Fig. 3.

(a) Probably the dendrites (Fig. 3, *b*) link up with neighbouring cells and detach themselves from others.

(b) Very important branch fibres are given off from the *axone* soon after it leaves the cell. Of these one (*e*) almost certainly carries information to the opposite side of the brain. The functions of the others do not immediately concern us. Meanwhile, the axone itself—of course in a bundle with other axones—passes down until it comes to a point

in the medulla (*g*) where it crosses over to the left side and comes boldly down through a tract in the spinal cord known as the *crossed pyramidal tract*, giving off collateral branches all the way, until it comes to an end in the *anterior horn* of the grey matter of the spinal cord (Fig. 4) at the level of a point between the bodies of the 6th and 7th cervical or neck vertebræ. So that, from the cortex of the brain right down to that part of the spinal cord extends one single neurone (Fig. 3).

(*c*) In the anterior horn it *arborizes* (i.e., makes connexion) with a second cell (*i*), somewhat less complicated in structure than the cortical cell. This gives off the usual processes. One of these (the axis cylinder, as before) leaves the spinal cord in company with many others in (let us say) the eighth cervical nerve. This nerve, with all the filaments contained in it, joins the first dorsal nerve. The trunk thus formed only extends a short distance before being broken up into separate nerves. Of these, one, the *Ulnar Nerve*, runs down behind the elbow and on the inner side of the forearm, giving off a number of branches. Some of these are muscular branches, supplying one of the muscles by which we move the little finger.

(*d*) Thus the "impulse" which enables us to move the little finger is conveyed with almost inconceivable rapidity from the cortex of the brain down two separate neurones. The nature of the impulse is a matter of surmise. We can say with a fair degree of confidence what it is *not*. As to what it *is*, many ingenious theories have been propounded. But we do not really know. Nor do we know how the brain informs, not merely

the ulnar nerve in general, but those special filaments which control the flexion of the little finger of the work that is required of them. On the other hand, excellent reasons can be given for the extreme ease with which at will the little finger can be straightened out by itself and the extreme difficulty of bending it on the palm of the hand, the other fingers remaining straight.

The above is called an *Efferent Nerve Impulse*.

(iv) *Afferent Nerve Impulses*.—How do we know that some one has been so unkind as to run a pin into our little finger? This is a much more elaborate business. The reader will get an idea of some of the possible routes which an afferent impulse may take by following the arrows marked "A" in Fig. 3. He will not fail to note the branches of the main trunks marked "o", "u" and "v." These represent the paths of a tendon reflex and a spinal reflex respectively.

This brings us to :

II. Physiology of the Nervous Mechanism

The reader will not need to be told that this is exceedingly complicated. Every function of the body—the contraction of the muscles of the heart and of the muscles by which we breathe, the pulsation of the blood-vessels, the activity of the sweat glands, the processes of salivation, digestion, absorption, all secretion and excretion—these and many others are controlled by nervous stimuli, and cannot take place if the controlling nerves are destroyed. It is obvious that in ordinary life a great number of these various activities is entirely independent of consciousness. Thus, the *pancreas*

first manufactures its highly elaborate digestive fluids and then pours them into the first part of the small intestine without any "reference" to "this office," i.e., the conscious will of the individual. None the less, the pancreas does not act without "higher authority." If the supply of food is very

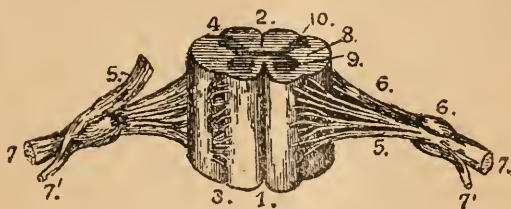


FIG. 4.—Section of a portion of the Spinal Cord (*Halliburton's Phynology*).

Here a portion of the spinal cord is seen from the front and above with a pair of nerves leaving it, one of which has been cut in order to show the posterior root more clearly.

1. Anterior median fissure.
2. Posterior median fissure.
3. Anterior lateral depression over which the anterior nerve roots are seen to spread.
4. Posterior lateral groove into which the posterior roots are seen to sink.
5. Anterior roots passing the ganglion.
6. Posterior roots, the fibres of which pass the ganglion.
- 6'. Ganglion on posterior root, containing cells of neurones by which afferent impulses are carried.
7. The united or compound nerve.
- 7'. The posterior primary branch derived in part from the anterior, in part from the posterior root.
8. White matter of spinal cord, containing the localized tracts for efferent and afferent fibres.
9. Anterior horn of grey matter.
10. Posterior horn of grey matter.

meagre, less *trypsin*, *amyllopsin*, and all the rest of it will be turned out. If it is excessive, a desperate effort will be made to meet the new requirements. All this is arranged by a "clearing-house," which is almost certainly situated in the *medulla oblongata*. Messages of almost incredible complexity must be continually passing backwards and

forwards without any knowledge of the "chief." Yet, even so, these "centres" (they are not shown in Fig. 3) are linked up with "G.H.Q." "This has quite upset me," says the kindly old clerk in one of Galsworthy's plays. "I shan't enjoy my luncheon to-day." Put physiologically, the knowledge that a young friend had committed forgery caused impulses to be sent from the higher to the lower centres, inhibiting the full performance of



FIG. 5.—Microscopic view of a Cortical Pyramidal Cell showing Dendrites and Axis Cylinder Process (*Mott*).

the usual digestive processes. If he had been very much "upset" indeed, he would probably have been quite unable to eat at all—or at any rate to retain the food.

But conscious control exists in the case of many of these automatic processes. We breathe when we are asleep. Asleep or awake, afferent impulses pass up to the respiratory centre in the medulla about seventeen times a minute, conveying the information that the lungs want air and that the

tissues generally are short of oxygen. Down go efferent impulses (as described above) by various paths to the diaphragm, the intercostal and some less important muscles, and inspiration takes place. But we can regulate the rate and force of inspiration if we choose to do so. When a patient persists in shallow breathing when we want him to fill his lungs, it is usually because he is stupid, or because we have not been clear in our directions, not because he is physically unable to do what we want him to do. An Andaman diver can remain under water for long periods at a stretch. Or, we may take another instance of this *reflex action*, in which the "clearing-house" is not in the brain at all, but in the lower part of the spinal cord. If some one strokes the inner side of the soles of our feet with a pencil, our toes will naturally "curl up." But if we know this and determine that they shall *not* "curl up," it is not at all a difficult matter to keep them straight. In that case, "G.H.Q." sends down an order to a spot in the spinal cord a little higher than the hip, to the effect that the usual stimulus to the toes is to be omitted. These "inhibitions" enable us in countless ways to render smoother and easier the path of life. Their development is no small part of all useful schemes of education. "Nobody can't upset yer, no matter what they says," is the shrewd observation of the flower girl in *No. 5 John Street*. In other words, Sir Charles' inhibitory centres were better educated than Tilda's.

In the main, these reflex actions (which are always going on) make for the maintenance of healthy equilibrium. But in many cases they are probably vestiges of a process useful enough at some remote

period, but now devoid of any discernible purpose. In some cases they are harmful and dangerous. In chapters XI, XII and XIII instances of severe bodily disturbance and even death as the result of mental emotion will be given.

There is another common form of automatism in which consciousness is in abeyance, merely because repeated action has dulled it, and now no longer brings it into play. When a person reads aloud, he is usually quite unconscious of visualizing with close attention the shape of the letters on the printed page. Yet in all probability (though this is not absolutely certain) the path of the impulse which carries the visual impression to the *angular gyrus*, there analyses it, switches it on to the centres of intellectual appreciation and volition, links up with the motor speech centres and so produces the spoken word, is the same as that which was followed when the same person as a child laboriously paid close attention to the difference between "b" and "d," and remembered that he had been taught that "broad" was monosyllabic and must not be pronounced "bro-ad."

CHAPTER X

THE RANGE OF IDEAS

WHEN a number of persons associate for a common purpose, their first act is to choose a leader. His power may be limited by the other members of the body, but they rely on his initiative and he has the casting vote. In the conclave of the human faculties, mind must occupy the chief place.

From time immemorial it has been suggested that people are always willing, in argument, to admit the reasonableness of the views they hold themselves. The readiness of anyone to admit the truth of the fact of his own existence, however, must be taken seriously. This sense of *I am I*, this absolute conviction that the being who rises in the morning is identical with the one who lay down in bed the night before, needs no external evidence to support it. This feeling of being alive "glows" in our consciousness and tingles through our veins even when we sleep.

Hot foot on this conception of *self* follows that of *myself*. I find I have thoughts and feelings, also a bodily frame, clothes and other possessions. All these are in some mysterious manner part of me. Even the opinion held of me by my fellows goes towards the sum total of ME in capital letters. There is still another side to my character, for

my consciousness is infinitely vaster, more elusive and more subtle than the undivided attention I am giving to the preparation of this manuscript. Indeed, instead of a single mind, we each possess a complete hierarchy of minds.

"Primitive kinds of consciousness have been carried up with us in our ascent from lower grades of being," as Dr. Chandler reminds us. These consist mainly of instincts that regulate the behaviour of animals and that were employed by man in his savage state. It has been suggested that some of these instincts, as for example, "the rooted attachment to home and the blind tenacity with which in the teeth of reason men cling to life," go back even further than the animal kingdom.

We can gauge only approximately the mentality of each particular member of the race. It would appear that what we call the intellect is the key to a vast treasury of experience gathered with much pain and sweat by our simple forbears and bequeathed unknowingly by them to their children.

Readers acquainted with Charles Kingsley's novel *Alton Locke* will remember the wonderful description of the tailor poet's dream, when he is laid low by an attack of fever. In the account of this dream, the author of the book with consummate ability unfolds to us the experience of personal transmutation through the ages. The hero is made to pass through all the stages of conscious existence, from the lowest with hardly any sense of individuality till he finds himself the child of a primitive race. The story is too well known to need repetition in these pages, but it has an interest for us at the moment as an illustration

of the prophetic reach of literary genius, for at the time it was penned science was moving towards the goal with lagging steps.

"As a matter of fact, the little lamp of consciousness illumines only a tiny fraction of the soul's domain," says a famous writer. "Here and there a few points are illuminated while all around the great dewy fields are wrapt in the darkness of night. This or that chamber of the soul's many mansions is lighted, then again it is wrapt in gloom. So man lives in this world largely a stranger to himself."

The infant's introduction to the world of "big blooming buzzing confusion" teaches him that he possesses feelings and that these feelings can be either agreeable or unpleasant. Discomfort reacts more or less unconsciously at first in a yell which in its turn leads to the administration of milk or other form of relief. This experience repeated a few times inculcates the conception of speech. Moving the head rapidly from side to side to escape an undesired morsel or craning forward to reach something tasty provides the beginnings of the sign-language and so on.

Much practical psychology may be learned by observing children, because the difference in the mental activity of the adult and the infant is only one of degree.

A golden bridge is needed to tempt the ordinary person to cross the great morass of philosophic speculation which has accumulated around this idea of mind as an immeasurable region stretching away in all directions to a dim far far distant horizon beyond the ken of science or the reach of art.

"When ten men look at the sun or moon, they all

see the same individual object," said Reid. Hamilton challenges this statement as not being philosophically correct. As a matter of fact, both propositions are correct taken in a limited sense. We all look at the one sun, but the picture that we each form of it in our own mind is, of course, a personal experience which, being *ours*, cannot be anyone else's at the same time. Briefly : the object that we come into contact with by means of our senses may be one and the same object for all of us, but the idea we each have of that object will vary with each mind that conceives the *idea*. A number of men will call the same luncheon or the same book good or bad as it affects them personally. A lady or a small child will describe identical scenes in the street in entirely different terms.

It is hardly necessary to say that at all times and upon all occasions the most vital interest for each of us is our own thoughts.

It is a common experience that when under the sway of strong emotions the affairs of everyday life seem shadowy and unreal. The importance of the external world is directly determined by the state of feelings it arouses within our breast, and here it is well to get rid of a fallacy of the older psychologists. The mind does not consist of a number of faculties, intellect, feeling, will, and so on, that can be exercised independently. Nothing is more misleading than to think that by learning French or book-keeping we are improving our mentality generally. The same objection applies to much of the popular so-called Memory Training. The form of memory that usually excites the most general admiration is usually an exhibition of the

knowledge of a number of disconnected facts having no relation to a well ordered mind. It is far easier to teach a child to read or draw than to get it to be clean and obedient.

We cannot insist too strongly on the coalescence of consciousness. We do not get our experience of life in a series of dots and dashes like a Morse Code message. The mind shapes all the contradictions and builds them into a symmetrical whole. The simplest illustration of this is the curved retina of the eye that gives the effect of a curve to all straight lines viewed at a distance. Soldiers who were in France will remember a similar characteristic of the ear. Rapid fire by the heavies at a distance always reached the ears as a rhythmic throb. The effect can best be described as that of a giant running his finger up and down the keyboard of some mighty pianoforte.

These are, however, only a couple of instances for the sake of illustration of the innate power of the mind to reduce chaos to order. The textbooks of psychology are full of experiments that touch on the same question. But a knowledge of the main principle suffices for our present purpose.

It is not proposed to go into the insoluble problem concerning the nature of life and personality in their ultimate essence; we will leave the poets and philosophers to wrangle over that knotty point. For all practical purposes we can consider consciousness as an outpouring of nervous energy through the channels of the brain. It is the senses that render it articulate. If there is no outlet for that nervous energy, the brain becomes congested as it were, and we suffer the distress of ennui.

The new-born babe lacking defined sensations of ear and eye is limited in its mental experience to a throbbing "nice and nasty" feeling. Then, as it gradually begins to employ its senses to gain experience of the outside world, it has the glimpses of life referred to a few paragraphs back, and learns the difference between "yes" and "no."

It is rather disconcerting at first to discover that we are not of "one mind"; that our strong will was once the ferocity of the tiger, and our common sense on which we pride ourselves originated in the sagacity of the bee. It is even more confusing to be told that each cell of the human body has its own presiding genius in the form of a cell-consciousness of which the name is legion; (the brain alone contains about 3,000,000,000 cells.) These auxiliary consciousnesses have ways of their own. They are clever and wayward. They are, however, quite docile if treated tactfully. They must be kept in a good humour and not allowed to quarrel among themselves, for if they split up into factions, the most dire results may eventuate.

One of the worst cases known was the predicament in which a lady we will call Miss X found herself. After an unusually profound sleep of eighteen or twenty hours she awoke a *different person*: That is to say, she possessed a new character—before she had been dull of comprehension and melancholy, now she was gay and mischievous—and had no recollection whatever of her former state of existence. The change of personality was so complete that she had to re-learn to read and write.

The marvel did not end there, however, for after some weeks she again had a long slumber, to awake

her old self once more. All her gaiety had vanished and her natural gloomy disposition returned.

But the old state of affairs did not continue, for through the doorway of sleep she a second time entered on the new life and took it up at the very point at which she had left it off. To cut this remarkable biography short, Miss X went on till she was middle-aged, first being "bossed" by one section of her mentality and then by another. In the end the gay and mischievous spirits got the upper hand, and she finished her life as Miss X the second.

Of course, this is an extreme case. It is only given as such. But there is probably a latent tendency in most of us in such a direction.

The child's antipathy to darkness is an inherited animal instinct. The child lives mainly by instinct; as we grow older we reason from experience, and know that the darkness holds no hidden dangers. The child's fear was the animal's safeguard. The animal had reason for not going where it could not see.

In normal health the will has absolute control over the subconscious. It is only when mentally or physically "run down" that our mentality gives us trouble. In the ordinary course the sum total of our personality is the result of the constitutional working of the infinite number of tiny intelligences that "run" our bodies for us. Our proper line of behaviour is to leave each group of intelligences alone to do its work—some carrying us up and down the stairs, some prompting us to think and to do, while the greater number are unobtrusively busy in keeping us alive and well.

The recognition of the latent energies of mind has been declared to be one of the most important developments of modern psychological investigation. Scientific men, however, a century ago, were fully cognizant that powers existed in man beyond the range of his ordinary attention. Coleridge tells of a serving-maid who repeated, under the influence of delirium, long passages of Latin, Greek and Hebrew that she unconsciously memorized when employed in the home of a learned pastor.

We all know the frequent experience of trying to recall a lost idea. The late Miss Cobbe puts it clearly in one of her essays :

“It is an everyday occurrence to most of us to forget a particular word or line of poetry, and to remember it some hours later, when we have ceased consciously to seek for it. We try, perhaps anxiously at first, to recover it, well aware that it lies somewhere hidden in our memory, but unable to seize it. As the saying is, we ‘ransack our brains for it,’ but failing to find it, we at last turn our attention to other matters. By and by, when, so far as consciousness goes, our whole minds are absorbed in a different topic, we exclaim ‘Eureka ! the word or verse is so-and-so.’ So familiar is this phenomenon, that we are accustomed in similar straits to say, ‘Never mind ; I shall think of the missing word by and by when I am attending to something else,’ and we deliberately turn away, not intending finally to abandon the pursuit, but precisely as if we were possessed of an obedient secretary or librarian, whom we could order to turn up a missing document or turn out a word in a dictionary, while we amused ourselves with something else. The more this common phenomenon is studied, the more I think the observer of his own mental processes will be obliged to concede that, so far as his own conscious self is concerned, the research is made absolutely *without him*. He has neither pain nor pleasure, nor sense of labour in the task, any more than if it were performed by somebody else ; and his conscious self is all the time suffering, enjoying, or labouring on totally different grounds.”

Dr Oliver Wendell Holmes draws attention to the same fact:

"We wish to remember something in the course of conversation. No effort of the will can reach it; but we say, 'Wait a minute, and it will come to me,' and go on talking. Presently, perhaps some minutes later, the idea we are in search of comes all at once into the mind, delivered like a prepaid parcel at the door of consciousness, like a foundling in a basket. How it came there we know not. The mind must have been at work, groping and feeling for it in the dark; it cannot have come of itself, yet all the while our consciousness, *so far as we are conscious of our consciousness*, was busy with other thoughts."

The mind creates its own world in which to dwell. One's optimism or knowledge cannot possibly crowd out anyone else's hope or learning. The supremacy of thought has never been challenged. "Thoughts rule the world." The power of an idea may have no proportion to any output of physical or nervous energy on the part of the brain that conceives it. As Dr. Carpenter points out:

"The moral power of the 'thoughts that breathe and words that burn' in the utterances of the poet cannot be correlated like the mechanical energy exerted by his muscles in the writing of his verse with the quantity of food he may have consumed in their production. And the new direction that may be given to the whole course of two lives, by the faintest expression of emotion in a tone, or look, or a touch, cannot be brought to any common measure, either with those muscular contractions, or with those molecular changes in nervous matter, which are the physical causes of its manifestation."

As regards the origin and order of our thoughts, a few words further of explanation are needed.

If you tumble a collection of articles haphazard into a drawer you can at some future time take them out again and replace them tidily.

Unfortunately for us, the same process cannot be gone through mentally. The brain is not "full of facts," but represents a record of experience. Our life is being chalked up in the mind second by second, day after day. Once this record is made it is practically unalterable.

There was a theory, dating back to Aristotle, that the relationship between the ideas that arise in the mind was a kind of logical one; that our conceptions were connected by a similarity or contiguity, but recent experimental work has shown that *pure reason* does not control thought; as William James says: "The truth must be admitted that thought works under strange conditions. Pure 'reason' is only one out of a thousand possibilities in the thinking of each of us." The laws of thought are *cerebral laws* not laws of logic. *Objects* are associated not *ideas*.

For instance, take the alphabet. There is no logical reason why B should follow A, nor why X should precede, Y in our mind. That we *do* think of the letters in what we call alphabetical order is simply because we have by virtue of training engraved them on the brain in that order. We have established an intimate nervous connexion between A and B and between B and C and so on, and less closely-linked associations between A and C, etc.

If the processes of thought depended on reason, not on mechanical laws, there would be no excuse for our not being able to name immediately say the seventeenth, fifteenth and thirteenth letters of the alphabet, whereas few can do this without reflection.

CHAPTER XI

OUR GENTLE SENSES

WE proceed to a consideration of the known powers of mind in increasing, diminishing, or altering sensation.

I. Anæsthesia

The phenomenon of complete or partial anæsthesia during the hypnotic trance had frequently been noted by Puységur and others.

CASE 8. REMOVAL OF BREAST DURING "MAGNETIC" TRANCE

The first recorded case of a major operation performed under the influence of induced anæsthesia belongs to 1829, in which year in Paris an elderly lady, Mme. Plantin, underwent an excision of the breast for cancer. The operator was M. Cloquet. The patient was hypnotized by her usual medical attendant, M. Chapelain. The experiment was apparently a complete success. During an operation lasting twelve minutes the patient seemed to be wholly insensible. She was not aroused from the trance for two days. She then maintained positively that she had no recollection whatever of the operation. Unfortunately, she died three weeks later from pleurisy. An investigation was ordered by the Section of Surgery of the Academy of Medicine. The investigators, however, were so disgusted at finding out that old Mme. Plantin had, while under the influence of hypnotism, made a "clairvoyant" diagnosis

to the effect that her liver was diseased—which was demonstrably untrue—that they took no further interest in the possibilities of somnambulic anæsthesia. Some years later an English surgeon was so charitable as to suggest that probably remorse for the deception which she had practised in appearing to feel no pain during a severe operation was the cause of her death (XXIV, vol. i, p. 209).

A similar case occurred in 1836.

CASE 9. DENTAL EXTRACTION DURING HYPNOTIC
ANÆSTHESIA

A. M. Oudet consented to extract a tooth from a female patient who was to be rendered insensible by a “magnetizer,” M. Hamard. Before the extraction was carried out, anæsthesia was tested by deep pricking with pins and the holding of the flame of a candle under her finger. She appeared to feel nothing. Then the tooth was extracted. The patient took no notice of the operation nor of the advice to wash out her mouth. When she was brought out of the trance, she professed surprise at finding that the tooth was gone (XXVI, p. 453).

Oudet was too prudent a man to press this heretical proceeding on the notice of the scientific men. The utmost to which he would consent was that the account already given should be published “with the approval of M. Oudet.” Perhaps it was just as well. The commonly accepted explanation of these phenomena was that both Mme. Plantin and M. Oudet’s patient had deliberately feigned insensibility. In connexion with another case the authors of the *Histoire Académique* assume collusion between operator (in this case a registered doctor) and patient (XXVI, pp. 415–6).

In our own country the pioneers of the new treatment had an even more difficult path to hew. The following case makes one doubt whether Huxley was not a little rash in maintaining that

“in the matter of intellectual veracity, science is already a long way ahead of the Churches.”

CASE 10. AMPUTATION DURING “MESMERIC” TRANCE

In 1842 amputation above the knee was performed by Mr. Squire Ward, M.R.C.S., in the case of a patient named James Wombell. The “mesmerizer” was Mr. Topham, a barrister. So far as could be ascertained, the anæsthesia was complete (XXVII, 1843).

When an account of the case was read at a meeting of the London Medico-Chirurgical Society in November, 1842, much incredulity was expressed. In particular, Dr. Copland proposed that no account of such a paper having been read before the Society should be entered in its Minutes. He asserted that “if the history of the man experiencing no agony during the operation were true, the fact was unworthy of their consideration, because pain was a wise provision of Nature, and patients ought to suffer pain while their surgeons were operating; they were all the better for it and recovered better” (CXX, p. 209). Dr. Marshall Hall was a good deal more definite than this. He maintained that the immobility of the patient proved too much. If he had really been insensible, there would have been “convulsive reflex movements.” Such a view was not unreasonable at a time when the physiology of anæsthesia was very imperfectly known. But the sequel is instructive. In 1850 Dr. Hall “begged leave to communicate a fact of some interest to the (Med.-Chir.) Society. He understood that this man (Wombell) had since confessed that he acted the part of an impostor.” Mr. Topham asked for the name of his authority. This Dr. Hall refused to give, but went on to say that he “would never

cease to raise his voice against anything derogatory to his profession . . . that he was of opinion that in these days of multifarious folly and quackery every member of his profession was called upon in honour to do the same." Most people will be disposed to think that he would have done better to follow Lady Teazle's eminently sensible suggestion. He wrote to his informant, asking what his evidence was, and received this illuminating reply :

"The confession of the man was distinctly and deliberately stated to me by a person in whom I have full confidence. It was in Nottinghamshire that I was told the fact last August, and I fully believe it."

However, it is due to Dr. Hall to say that he seems to have been no worse than the majority of his confrères. When at a later date Drs. Ashburner and Cohen tried to expose this anonymous slander at a meeting of the Med.-Chir. Society, the President refused to allow them to speak, and the *Lancet* applauded his "firmness and impartiality" (XXVIII, Dec. 28, 1850, and March 1, 1851 ; XXIV, vol. ix, pp. 88, 106).

The work of the well-known James Esdaile in India from 1845 onwards was the occasion of renewed interest in the whole subject. Esdaile's results could not be ignored. A total of 261 major operations with a very low case mortality (nil from the anæsthesia) and apparently complete abolition of all sensation in every case compelled attention from the lay if not from the medical portion of the community (XXIX *passim*). In spite of a severely non-committal report by a body of experts, Lord Dalhousie gave Esdaile all possible encouragement, and the work went on until the introduction of

drug anæsthesia, when, as Dr. Duncan Stewart elegantly put it, "It is time to throw away mummery and work above board now that we have got ether." It was about the same time that the *Lancet* (Sept. 1848) announced: "We cannot publish any more papers on the subject of such an odious fraud as Mesmerism." The *London Medical Gazette* (April, 1845) assured "Dr. F——" that he "need be under no apprehension of an attack in the *Mesmeric Magazine* affecting him in the opinion of the profession. That journal only finds circulation among the class of impostors who record their doings in it." As "the profession" generally seems to have approved of Dr. Marshall Hall's procedure, Dr. F—— was probably quite at ease.

For purposes of practical surgery, hypnotic anæsthesia has of course given way to drug anæsthesia—except in a few very exceptional cases. No one would in ordinary circumstances pursue a method which requires time, selection of cases, a specially trained agent, and even then may fail completely, when means are at hand which anyone can use, are always effective, and involve less danger to life than many London street-crossings. But this does not detract from the value and importance of the phenomenon. The two following cases of more recent date are typical. The first is recorded by Mr. Woodhouse Brain, for some years anæsthetist at Charing Cross Hospital.

CASE 11. REMOVAL OF A SEBACEOUS CYST DURING
PSYCHIC ANÆSTHESIA

"During the year 1862 I was called upon to give chloroform to a very nervous and highly hysterical girl, who was about to have two sebaceous tumours of the scalp removed.

On going into the operating theatre, it was found that the bottle containing the chloroform had been removed to the dispensary, and on taking the Snow's inhaler . . . I found it to be quite devoid of even any smell of chloroform. Then, having sent for the bottle, in order to accustom the girl to the face-piece, I applied it to her face and she at once began to breathe rapidly through it. When she had done this for about half a minute she said, 'Oh, I feel it, I feel I am going off,' and as the chloroform bottle had not arrived, she was told to go on breathing quietly. Somewhat to curtail the account—the patient rapidly showed all the signs of complete anæsthesia. The first tumour was removed. Wishing to see the effect of her imagination, I said to the operator who was going to remove the second tumour, 'Wait a minute, she seems to be coming round.' Instantly her respiration, which had been quite quiet, altered in character, becoming rapid . . . and she commenced moving her arms about. I then reapplied the face-piece and her breathing again became quiet, and she submitted to the second operation without moving a muscle and . . . in answer to the question as to whether she had felt anything, she said, 'No, I was quite unconscious of all that was done,' and to the time she left the hospital she firmly believed in the potency of the anæsthetic which had been administered" (XXX, i. p. 38).

The other case is mentioned in the course of an account in the *Lancet* of a *Demonstration of Hypnotism as an Anæsthetic*.

CASE 12. EXTRACTION OF TEETH UNDER HYPNOTIC ANÆSTHESIA

"The next case was that of a servant girl, aged 19, who . . . was put to sleep by the following letter from Dr. Bramwell addressed to Mr. Turner, the operating dentist :

" 'Dear Mr. Turner,—I send you a patient with enclosed order. When you give it to her, she will fall asleep at once and obey your commands.—J. MILNE BRAMWELL.'

" 'Go to sleep by order of Dr. Bramwell and obey Mr. Turner's commands.—J. MILNE BRAMWELL.' "

This experiment answered perfectly. Sleep was

induced at once by reading the note, and was so profound that "at the end of a lengthy operation, in which sixteen stumps were removed she awoke smiling and insisted that she had felt no pain. During the whole time she did everything that Mr. Turner had suggested, but it was observed that there was a diminished flow of saliva, and that the corneal reflexes were absent; the breathing was more noisy than ordinarily and the pulse slower."

The article ends by saying that "at the conclusion of this most interesting and successful series of hypnotic experiments, a vote of thanks to Dr. Bramwell for his kindness in giving the demonstration was proposed by Mr. Scattergood, Dean of the Yorkshire College, and seconded by Mr. Pridgin Teale, F.R.S." (XXVIII, 1890, vol. ii, p. 771). It is satisfactory to know that the importunity of fifty years was not entirely thrown away.

Anæsthesia, whole or partial, has been commonly observed among the insane. M. Michéa regarded it as frequently allied with melancholia and religious and suicidal obsessions. He mentions the case of an old man at Dijon who sustained a severe wound and seemed to feel no pain as the result of it (XXXI, 1855, p. 294). M. Auzouy, of Maréville, whose practice was extensive, says that "insensibility to pain is a pathological state which constitutes not a fortuitous event peculiar to some cases of mental alienation, but a very frequent symptom" (XXXII, 1860, p. 68). The following case recorded by Carré de Montgeron in *La Vérité des Miracles* is an extreme instance of the phenomenon.

CASE 13. EXTREME ANÆSTHESIA IN A "CONVULSION-NAIRE"

"(Nisette) was struck on the head with a log, then with four logs, and then had the four members pulled in different directions." In brief, she was subjected to an almost incredible amount of pulling and treading under—sufficient to have "knocked out" if not killed a well-trained athlete. Her insensibility to pain seems to have been complete. Montgeron ascribes the immunity of internal organs to injury to the rigidity of the external muscles (XXXIII, vol. ii, p. 370).

In these last cases, it will be observed, there was no deliberate induction of hypnosis.

II. Abnormal Sensation

Altered sensation induced by the will of the "hypnotist" is now a recognized possibility of the somnambulic state, though it was many years before a distinction was allowed between the genuine phenomenon and the trickery of the music-hall stage. As long ago as 1851 Gregory recorded a case in which he was able at will to change sensations from one extreme to another.

CASE 14. RAPIDLY ALTERED SENSATION DURING HYPNOSIS

"One arm was deprived of sensation, or both arms or the whole frame. [The patient] was made to feel a knife burning hot, and the chair on which he sat equally so. When he started up, he was made to feel the floor so hot that he . . . wished to pull off his boots which burnt him. He was made to feel the room intolerably warm, and actually perspired with the heat; then, so cold, that in a minute or two he buttoned his coat and walked about rubbing his hands. In about five minutes his hand was really chilled, as I found, like that of a person exposed to frost" (XXXIV, p. 353).

Sometimes instances of "sympathetic pain" seem to be well authenticated.

CASE 15. SYMPATHETIC PAIN

Among the cases recorded by Lauzanus is one in which a young man had attentively watched a priest being bled from the arm while suffering from pleurisy. Two hours afterwards he experienced in his own arm a severe pain at a spot corresponding to the point of puncture. This continued for two days (XXXV, p. 154).

In the case of an extreme effect induced in a highly neurotic subject, described by Erasmus Darwin, a young man lay helpless for twenty years, suffering from a perpetual sensation of great cold, the result of "suggestion" by an angry old woman who a couple of centuries earlier would certainly have paid the penalty (XXXVI, vol. ii, p. 359).

Does anyone say that no one now believes that a witch's curse can induce aches and pains? Here is an extract from the *New York Herald* (1914) which, if not true, is at least circumstantial.

CASE 16. PAINS IN THE HEAD INDUCED BY WITCHCRAFT AND REMOVED BY INCANTATIONS

"In the house of a prominent lawyer in Camden county there is a hole in the post of a mahogany bedstead filled with salt which witnesses to his belief in witchcraft. At one time he prosecuted a case against an old woman who, when convicted and fined, left the court muttering incantations and vowing vengeance. That night the lawyer was suddenly attacked with violent pains in the head. The curse had come upon him, and he feared the wretched old woman, whom he believed to be responsible for it. No doctor of medicine would do in such a case. A day labourer, who was born with a caul over his face, was brought in through the back door and taken to the bedroom of the suffering lawyer. The electric lights had been

extinguished, and a candle flickered on each side of the bed. Looking at the patient through the veil which he avers is the identical one he was born with, the "hec" (witch) doctor muttered his peculiar ritual, tied a rattle-snake around the sufferer's neck, and bored the hole in the north-east leg of the bed, filling it with salt over which he chanted incantations. This done, he announced that the evil powers had notified the witch that she could no longer hold dominion over the body of her enemy. The patient believed that his pains ceased from that hour."

Gratiolet quotes a good instance of sensation due to a strong psychic impression.

CASE 17. AN IMAGINARY STREAM OF BLOOD

In some ebullition of the "red fool-fury of the Seine" a soldier received a slight contusion from a musket ball on the shoulder. Afterwards there was a momentary pain at the site of injury; at the same instant "he distinctly felt" a stream of blood flowing down the side of the chest from the wound. "Yet the skin had not even been broken" (XXXVII, p. 286).

Induction of hyperæsthesia at will, as well as in a condition of complete or partial hypnosis, is as well established as the induction of anæsthesia, though it has received less attention.

Closely akin are the cases in which an association of ideas holds and reproduces the original sensation. The following is a typical instance.

CASE 18. SENSATION REPRODUCED FROM ASSOCIATION

"Dr. Kellog records in the *American Journal of Insanity* the case of a friend of his who informed him that he had frequently sailed when young in a steamboat across an arm of the sea which was rough, and in consequence often suffered from sea-sickness. Upon the boat was an old blind fiddler who did his best to alleviate the sufferings of the passengers with his violin. The result was that this instrument became associated in his mind with sea-sickness,

and for years he could never hear it without experiencing sensations of nausea " (XXX, vol. i, p. 49).

Functional derangements as a result of mental association have been noted by many observers. Sir H. Morris reminds us that—

"Hartley, being a physician by profession as well as a metaphysician, in his *Observations on Man*, published in 1749, combined the doctrine of mental association with a detailed hypothesis as to the corresponding action of the nervous system, and he enunciated the principle that any sensation frequently associated with another sensation will, when presented alone, call up in the mind the ideas which are excited by that other sensation also. James Mill carried the doctrine still further than Hamilton, Hartley and Berkeley, and held that "some ideas are by frequency and strength of association so closely combined that they cannot be separated; if one exists the other exists along with it, in spite of whatever effort we make to disjoin them" (CXIV, 1910, vol. i, p. 1457).

The following is an excellent example of this process. It is recorded by Dr. McComb.

CASE 19. ABDOMINAL PAIN THROUGH "SEEING RED"

"Dubois, the Swiss specialist, tells of a patient whose trouble started in this way: On one occasion it was his duty to carry some potted geraniums to another flower border in the garden where he was at work. Following this effort he was taken with an agonizing cramp in the region of his stomach. He soon discovered the reason of this strange sensation. It was the red of the geraniums which brought it on. That was his theory, and he found confirmation of this theory in the fact that ever afterwards bright red always produced this effect upon him, and the reaction was just in proportion to the intensity of the red, so that if he took up a book with red edges the sensation of pain grew, and decreased if the intensity of the colour was lessened by turning the leaves over. Dubois pointed out to him that he was simply the victim of an auto-suggestion. Possibly cramp came on the day he

first felt it through the attitude of bending the body or through some physical fatigue, or perhaps because he had eaten something that had disagreed with him. One could not tell exactly what was the cause. It could not have been the red colour, however, that made such an impression upon his organs and caused the sensation, because there is no inherent connexion between any colour and stomach cramp. That the red always acted in the same way afterwards did not prove anything. He was suffering from the effect of an auto-suggestion, and as a mental suggestion creates a sensation just as long as it is not dissipated by a contrary auto-suggestion, so the patient had remained under the power of his self-produced trouble until he understood its *modus operandi*—the source of its hold on him. This, brought to light, began his cure" (CXVIII, p. 78).

III. Special Senses

(1) SIGHT

It is obvious that in the present condition of our knowledge of the mechanism whereby visual perception is registered by the consciousness, the distinction between hallucination and a 'true subjective impression is not easy to draw. It is hardly possible to add anything to Müller's surmise, enunciated in 1838. He says :

"The processes by which phantasms are produced is the reverse of that to which the vision of actual external objects is due. In the latter case, particles of the retina, thrown into an active state by external impressions, are conceived in that condition by the sensorium; in the former case, the idea in the sensorium excites the active state of corresponding particles of the retina or optic nerve" (XXXVIII, p. 1391).

No doubt many of the phenomena of ecstatic vision were in the Müllerian sense true subjective

impressions. Neither physiology nor psychology had advanced as far as their present level when that eminently sane mystic, St. Theresa, wrote: "I have known some of weak mind who imagine they see all that they think. This is a very dangerous condition."

Galton gives an interesting description of the power to visualize numerals at will as evidenced by Mr. Bidder, Q.C., the son of the well-known "calculating boy." By this means, a natural gift of extraordinarily rapid mental calculation was developed and maintained to the end of his life (XXXIX, p. 158). The following is an excellent instance of a strong visual impression produced by heightened emotion and probably intensified by the temporarily close relationship of an excited crowd.

CASE 20. COMMON SUBJECTIVE VISUAL IMPRESSION

"A curious illustration of the influence of the Imagination in modifying the perceptions of sensorial impressions derived from the outer world occurred during the conflagration at the Crystal Palace in the winter of 1866-7. When the animals were destroyed by the fire, it was supposed that the chimpanzee had succeeded in escaping from his cage. Attracted to the roof, with this expectation in full force, men saw the unhappy animal holding on to it, and writhing in agony to get astride one of the iron ribs. It need not be said that its struggles were watched by those below with breathless suspense, and, as the newspapers informed us, 'with sickening dread.' But there was no animal whatever there, and all this feeling was thrown away upon a tattered piece of blind, so torn as to resemble, to the eye of fancy, the body, arms, and legs of an ape" (XXX, vol. i, p. 59).

The power of the will in creating a visual illusion is well shown in the case of the actor, Talma. It

is thus related by Hyacinthe Zanglois, a painter of Rouen and an intimate friend of Talma.

CASE 21. ILLUSION OF SIGHT EVOKED AT WILL

"This great actor [Talma] informed me that when he entered on the stage, he was able, by the power of the Will to banish from his sight the dress of his numerous and brilliant audience and to substitute in the place of those living persons so many skeletons. When his imagination had thus filled the theatre with these singular spectators, the emotions which he experienced gave such an impulse to his acting as to produce the most startling effects" (XL, p. 41).

This is on the same lines as the practice of the caricaturist, Pellegrini, who always first drew the subject of the cartoon (usually from memory) without any clothing, and then added the appropriate details of attire.

Carpenter was probably correct in his view that "every sensory impression, once perceived, is registered in the cerebral optical perceptive centre, and may be reproduced at some subsequent time, although there may be no consciousness of its existence in the mind during the whole intermediate period" (XLI, p. 808).

Temporary, occasionally permanent, loss of sight through nerve derangement is by no means uncommon. A war case of this kind will be found recorded on p. 300. If Herodotus is to be trusted, the same phenomenon occurred in a much earlier war.

"The following prodigy," he tells us, occurred [at Marathon, B.C. 490]. An Athenian, Epizelus, while fighting in the medley, was deprived of sight, though wounded in no part of his body, and he continued to be blind from that time for the remainder of his life. I have heard that

he used to give the following account of his loss. He thought that a large heavy-armed man stood beside him, whose beard shaded the whole of his shield; and this spectre passed him by and killed the man that stood by his side" (Bk. VI, c. 117).

Closely allied with the foregoing are the phenomena of *Disorientation*. A fair number of these is on record. The following case is a particularly interesting example of its kind:

CASE 22. DISORIENTATION TRACED TO ITS SOURCE

"How an accident to a child led to his mind 'falling through a right angle,' and in later years produced an almost incredible condition of 'disorientation,' has been related by Dr. William Brown, Professor of Psychology at King's College.

"The case was that of an R.A.F. signaller who was blown up by an aeroplane bomb whilst taking refuge in a disused trench in France. On becoming conscious in the trench, he found that everything appeared to be at right angles to the position he expected, and this feeling of 'disorientation' persisted for months.

"In England he found if he walked along a semi-circular street he felt he was walking at a right angle. Should he happen to be riding on top of a bus, and the bus turned at a right angle, he felt that he was continuing in a straight line, although he knew a corner had been turned."

Hypnotism was tried, with the result that various early episodes in the patient's life were brought to light. Some of these suggested a possible clue to the origin of the malady. Eventually

"the professor had got back to the third year of the man's life. He had gone into the kitchen one morning, and, pulling the tablecloth, had upset the coffee-pot down his right arm. He felt it as a pain in his left side over his heart.

"That was the first experience of the kind the man could remember, and it struck the professor as a possible

explanation that the scalding of his arm produced a fainting fit in which the patient fell to the left and everything twisted round to the right—in other words he ‘fell through a right-angle,’ and this was the beginning of his disorientation.

“Professor Brown states that the man is now quite cured of his strange disorder” (CXXIX, February 3, 1920).

(2) HEARING

Entire control of the auditory powers of the “subject” in deep hypnosis, so that at one time no sound except the voice of the “operator” is heard, at another sounds to which his attention is directed, is a familiar phenomenon. Charles Dickens is said to have declared that “every word said by his characters was distinctly *heard* by him” (XIII, Feb., 1872). There is a substantial degree of physiological truth in Madame de Staël’s pronouncement: “So mighty sometimes is the power of Imagination that by it we hear in our hearts the very voice and accents of one whom we love.”

Loss of hearing through violent emotion is not uncommon, and may be either transitory or permanent. The following is a record of the observations of Mr. Dalby, an aural surgeon of wide experience:

“I have known the hearing in apparently healthy subjects to be almost completely lost on witnessing a sudden death of a near relative, on several occasions immediately upon the receipt of news of a painful nature, in the case of women upon the fright produced by a cry of fire or an alarm of burglars in the house, at the witnessing of the terrible sight of a man cutting his throat; once on the receipt of great good fortune which had not been anticipated. On each of these occasions the hearing power of the patient was always perfectly good up to the time of the catastrophe, and immediately afterwards the deafness was intense, so that the change in all probability was almost instantaneous” (XLIII, vol. iii, p. 340).

(3) TOUCH

The liability of all forms of tactile sensation to convey erroneous impressions under the lead of imagination, emotion, or volition is well known. Probably there are few persons who have not at some period of their lives experienced something of the kind. The following is an account of a deliberately planned mystification, carried out by Mr. Stuart Cumberland at the Casual Club, London, in November, 1880 :

CASE 23. ERRONEOUS TACTILE IMPRESSIONS PURPOSELY CAUSED

“The primary object of the exhibition was to expose modern spiritualism ; but its interest for the psychologist consisted mainly in the confusion induced in the sensory perceptions by certain manifestations. Thus, for example, Mr. Cumberland placed himself at a table with two gentlemen, sitting one on either side of him, with whose hands he joined his, the gas being lighted. Having satisfied themselves that both Mr. Cumberland’s hands were attached to theirs, they, at his request, shut their eyes, and were asked whether they still felt his hands touching theirs. They answered affirmatively without any hesitation, whereas Mr. Cumberland had dexterously removed one of his hands, and made the other do duty for both. Having obtained their full assent to this proposition, the operator, having one hand free, employed it as a ‘spirit hand’ to touch the heads of the gentlemen, placing also upon one a trombone. Mr. Cumberland then resumed his former connexion by both hands, without the subjects of the experiments being conscious of the change ; and when they opened their eyes they were clear in their opinion that, whoever touched them and placed the instrument upon their heads, Mr. Cumberland did not. The illusion was complete ” (XLIV, Jan., 1881).

How easily appreciation of weight may be misled

by the imagination is well seen in the oft quoted instance of Dr. Pearson and potassium.

CASE 24. ERRONEOUS ESTIMATE OF WEIGHT

"When potassium was discovered by Davy, Dr. Pearson, taking up a globule, estimated its weight on his finger, and exclaimed, "Bless me, how heavy it is," simply from expecting a metal to be so, whereas the reverse was the real truth" (XXX, vol. i, p. 71).

It is hardly necessary to add that we cannot pretend to determine the exact physiology of subjective sense impressions induced by a purely mental process. We do not, for example, know how far sense impressions belonging not to the life period of the individual but originally registered by a (possibly) remote ancestor are stored in the brain. Nor can we tell how far the purely intellectual process of recording percepts by analogy is a constant operative. In fact, our present knowledge is but fragmentary. It is, however, not unreasonable to expect that the scope of educative influences will be rapidly extended by larger information, and that the control of sense impressions as a force reacting on the healthy equilibrium of the individual will be with advancing knowledge more widely recognized and more usefully employed.

CHAPTER XII

THE CONTROL OF MOVEMENT

THE response of the muscles of the body to stimulation or inhibition on the part of the mind is the next subject to be considered. It will be convenient to group these phenomena in three main divisions.

I. Excessive or Abnormal Action of Voluntary Muscles

It is in this that the force of the well-known dictum of John Hunter that "every part of the body sympathizes with the mind, for whatever affects the mind is affected in proportion" is most apparent (XLV, vol. iv, p. 167). All natural gesticulation is due to it. The actually purposeless motions of the body on the occasion of sudden shock, or movements carried out which, although appropriate in case of some danger close at hand, are instinctively performed when the danger is in fact remote, are a commonplace of everyday experience.

But a mental stimulus is frequently responsible for highly accentuated muscular activity. This is particularly well seen in the case of epileptics. Dr. Marshall Hall records the following :

CASE 25. EPILEPSY INDUCED BY SLIGHT MENTAL ACTIVITY

"Dr. Tyler Smith has related to me an instance of an epileptic girl who experienced an attack whenever she tried to undo a difficult knot in her work, which was tapestry" (XLVI, p. 24).

We have already seen that the French Commissioners made it abundantly clear that the "magnetic crisis" could often be brought on in nervous subjects merely by exciting expectation and without the introduction of "animal magnetism."

The following case well illustrates the possibility of repeated epileptic attacks as the result of the memory of a profound emotion. It is related by Trousseau.

CASE 26. EPILEPSY AS THE RESULT OF REMEMBRANCE OF GRIEF

"A boy *æt.* 11 lost his mother. The wound made so deep an impression upon him that he was seized with epileptic convulsions. He was 17 when he was placed under treatment at the hospital, and it was found that on the accession of every fit, which had been of frequent occurrence during the six years, this painful circumstance invariably recurred to his mind. 'I am seized through my thoughts,' he used to say, and he explained to his medical attendants that his thoughts were always the same, and had constant reference to his loss" (LIV, p. 71).

Sometimes active sympathy will induce convulsive movements to a remarkable extent. A good instance is the following :

CASE 27. CONVULSIONS INDUCED BY SYMPATHY

"A young woman in a workshop at Lyons had a "nervous attack" (apparently epileptiform) after a domestic disagreement. The other women who worked in the place crowded round her, intending to render assistance. Of these, first one and then another fell down in convulsions,

and the epidemic was only checked by clearing the room" (XLVII, Feb. 16).

With this we may compare the story related of a sentry in Napoleon's army at Dresden who committed suicide by hanging in the sentry-box. A succession of men who occupied the same box did the same thing. Eventually by Napoleon's orders the box was destroyed by fire.

An extreme instance of sympathetic movements over which the affected person has no control is the condition known as *lâtak* among the Malaysians. A *lâtak* can be made to imitate any movement performed by another person who for the time being has him in control. The following case is related by Dr. J. J. Abraham.

CASE 28. HEARTLESS CRUELTY PRACTISED ON A "LÂTAK"

"The cook of a coasting steamer had his baby brought to him when the ship was in port. He was known to be intensely devoted to, and proud of, the child. It was also known to his shipmates that he was *lâtak*. When he was nursing the baby in his arms on the deck, one of the Malay crew came along with a billet of wood, which he pretended to nurse in his arms like a baby. Next he began to toss the billet of wood in the air, catching it again as it fell, knowing that the unfortunate *lâtak*, absolutely unable to resist, would be fascinated into imitating him. This the poor victim did, tossing his precious baby up towards the awning and catching it again, loathing and dreading to do so, yet compelled by his *lâtak* state to absolutely keep time with his tormentor. Suddenly, instead of catching his billet, the sailor opened his arms and let it fall on the deck. Unable to resist, the miserable father did likewise: the baby fell heavily on deck and never regained consciousness" (CXIV, Feb. 24, 1912).

Many instances of spasmodic contraction of the muscles of the pharynx are given in connexion with

observations on the true nature of Rabies. The following is a case in point :

CASE 29. HYDROPHOBIC SYMPTOMS DUE TO IMAGINATION

“The difficulty of swallowing is sometimes produced by the power of the Imagination alone. I met with an instance of this kind lately in which it was very difficult to prevent a person from rendering himself completely hydrophobic. Himself and his wife had been bitten by a dog which they supposed to be mad. The woman thought herself well, but the man, a meagre hypochondriacal subject, fancied that he had uneasiness in his throat and that he could hardly swallow anything. When he first applied to me, a medical friend who was present asked him whether he had any sensation of heat at the pit of the stomach. He answered in the negative doubtfully ; but the next day I found him in bed, complaining of heat at the pit of the stomach, difficulty of swallowing, tremors, and confusion in the head. He continued to persuade himself that he was ill of rabies, and confined himself to bed, expecting death for nearly a fortnight. At last I remarked to him that persons attacked by rabies never survived more than six days,” upon which the attack subsided. The narrator goes on to say that, left to himself, the patient probably would have died (XLVIII, vol. iii, p. 46).

An almost exactly similar case is described by Trousseau (LIV, vol. i, p. 691).

CASE 30. HYDROPHOBIA INDUCED BY FEAR 10 YEARS AFTER LESION

In the next case the result was more serious. Two brothers living at Montpellier had been bitten by a rabid animal. One of them went to Holland and did not return for ten years. He then heard for the first time that his brother had died of hydrophobia. Within a few days the unfortunate man himself developed hydrophobia and died (XXXV, p. 143).

Braid was on one occasion able to induce rigid

cataplexy in a lady by directing her to fix her attention on her hand. The effect was almost instantaneous. The lady in question was supposed to be highly susceptible to the presence of a magnet ; but for an hour before the experiment was made she paid no attention to an extremely powerful magnet which, unknown to her, Mr. Braid was carrying in his pocket (XLIX, p. 82). In the same way, Laségue was able to bring about a condition of profound cataplexy merely by closing the eyes of a patient, as in modern hypnotic practice. After remarking that there is a great difference in susceptibility to such influences between one patient and another, Laségue continues :

“ If one lays one’s hand on their eyes and closes the lids, they feel a peculiar drowsiness, and presently pass into the deepest sleep, from which hardly any stimulus will arouse them. . . . The cataleptic rigidity is general or partial, complete or incomplete, more or less fugitive. It disappears as soon as the patient wakes ” (L, p. 119).

Darwin argues forcibly for the view that many apparently instinctive movements commonly seen in the case of emotional disturbance are inherited. Animals, when attacked, commonly fight in self-defence, nearly always to the accompaniment of anger. In man nearly all muscular movement under the spur of anger may be consciously or unconsciously inhibited. But the increased rapidity of the heart’s action which even in such cases usually remains is, in Darwin’s opinion, a direct and inherited effect (LI, p. 75). Herbert Spencer adopts the same view.

“ The destructive passion,” he says, “ is shown in a general tension of the muscular system, in gnashing of teeth and protrusion of the claws, in dilated eyes and

nostrils, in growls ; and these are weak forms of the actions that accompany the killing of prey. Everyone can testify that the psychical state called Anger consists of mental representations of the actions and impressions which would occur while inflicting some kind of pain " (LII, p. 483).

Some of the fascinating observations recorded by Sir Charles Bell have been—in the matter of the conclusions deduced from them—shown to be erroneous by more recent research in comparative anatomy ; but the following brief yet comprehensive account of muscular movements excited by fear has hardly been surpassed by any modern record of observation in the case of war neuroses.

"There is a spasm on his breast—he cannot breathe freely ; the chest is elevated ; the muscles of the neck and shoulders are in action ; his breathing is short and rapid ; there is a gasping and convulsive motion of his lips, a tremor on his hollow cheek, a gulping and catching of his throat ; and why does his heart knock at his ribs while yet there is no force of circulation ?—for his lips and cheeks are ashy pale " (LIII, p. 267).

The association of ideas in the physical results of emotional sensations has in this, as in other conditions, a definite rôle assigned to it. Darwin directs attention in particular to the voice, "which from having been habitually employed as a serviceable aid under certain conditions, inducing pleasure, pain, rage, etc., is commonly used whenever the same sensations or emotions are excited under quite different conditions, or in a lesser degree " (LI, p. 84).

Extreme convulsions are, of course, very commonly noted as the result of strong religious emotion, especially in connexion with revival meetings. The following may be cited as a typical instance

recorded by a competent observer. It occurred in Ireland.

CASE 31. CONVULSIONS AT A REVIVAL MEETING

"A neatly attired young woman, about 22, had been stricken an hour previously, and was supported in the arms of an elderly female, who was seated on a low stool. Her face was deadly pale, her eyelids firmly closed, except when partially raised by a convulsive paroxysm, and then no part of the eye was visible, except a narrow line of white; pulse intermittent, great perspiration; arms extended or elevated; and then the hands clasped with great energy, and her features rigidly fixed into an expression of supplication; utterance rather incoherent; agonizing expressions of despair." The writer goes on to say, in speaking of other cases, "In all cases it appeared as if every fibre of the heart and every muscle of the body was wrung with the same excruciating torture" (LV, p. 89).

In the next case spasmodic contraction of the two powerful muscles of the neck and shoulder, known as the Trapezius and Sterno-mastoid, seems to have been the result of emotional disturbance consequent upon the sight of a street accident. It is recorded by Dr. Althaus. The patient was a lady.

CASE 32. CONTRACTION OF POWERFUL MUSCLES DUE TO A SINGLE DISTURBANCE

"At first the contractions were slight and only occurred when the patient was excited, when in society, or if spoken to. The affection gradually became stronger and more troublesome. . . . The influence of emotion in exciting the trembling and spasms of the muscles was most striking in this case." The condition was greatly accentuated when the patient knew she was being observed; and in consequence she began to shut herself up and avoid all social intercourse. Eventually restoration was effected through the use of the faradic current (LVI, May 25).

A marked case of "hystero-tetanus" is described

by Dr. Carpenter. The patient, a woman, had suffered a keen disappointment after a period of prolonged anxiety and great mental exertion.

CASE 33. HYSTERO-TETANUS FROM EMOTIONAL CAUSES

“Complete opisthotonus (i.e., bending back of the body into an arch as the result of muscular contraction—an unmistakable symptom of true tetanus) co-existed with perfect coma ; then again there was trismus (locking of the jaw), lasting for five consecutive days, without any other spasmodic action . . . at another period the convulsions had more of the epileptic character, the face being distorted and the limbs agitated . . . whilst during the whole of this succession, there was paralysis of the extensor muscles of both lower extremities, with paroxysms of the most violent and prolonged cramp in one of them ” (XLI, p. 879).

An equally severe case of the same kind, the result of overwork, has been recently described by Dr. Bramwell. This was eventually cured by Suggestion (CXX, p. 32).

Sometimes it is possible to trace the attack to its mental source and to note the intimate relation between cause and effect. This is well shown in the following case. It is described by Dr. A. F. Hurst.

CASE 34. HYSTERICAL LOCKJAW

“A man was admitted into Guy’s Hospital on a Sunday morning with severe trismus, which had begun to develop the previous evening. His jaws were rigidly clenched and there was stiffness at the back of the neck. He gave a history of having trodden on a rusty nail the previous morning, and a small, slightly septic wound had been produced. No doubt was felt by the house-physician that this was a case of true tetanus, and he telephoned to me asking whether I would like to see the patient, or whether he should give him anti-tetanic serum at once.

I replied that I would come down immediately and that all treatment might be delayed until I had seen him. The patient had all the appearance of a typical case of tetanus, but my suspicions were aroused by the fact that the symptoms had developed so rapidly after the wound. I therefore asked him whether he knew anything about lockjaw or had known of anyone suffering from the disease. He replied that on the previous Sunday he had read in the paper of a man, who had had an accident precisely similar to his own and who had developed lockjaw and died. [It would appear that the trismus was not complete.] This convinced me that the trismus and slight rigidity of the neck were hysterical and the result of auto-suggestion. I explained to him that, as his symptoms had developed so quickly after the accident, they were quite certain to disappear with equal rapidity, and that he would be much better the same evening and the next day he would be completely well. He received no other treatment, and as all the symptoms had completely disappeared the following morning, he was discharged from the hospital" (CXXII, vol. i, p. 199).

Long-standing conditions of muscular contraction occasionally give rise to litigation, though there may be no reason to doubt that it is beyond the patient's control. The following is a typical case recorded in *The Times*.

CASE 35. DEFORMITY OF AN HYSTERICAL NATURE

"In the Bath County Court yesterday, a point arose in a compensation case as to whether the applicant's foot was permanently twisted as the result of an accident at his work, or whether he was merely suffering from a nervous condition of mind. To test the matter, Judge Gwynne James sent for a medical referee, who, along with the doctors on both sides, put the applicant under chloroform, with the result that the muscles of the foot immediately relaxed. His honour, however, gave judgment for the applicant for a weekly sum, on the ground that the man's mental derangement was the consequence of the accident" (CXV, Mar. 20, 1914).

The possibility of the most elaborate simulation of extensive contractions of voluntary muscles must not, however, be ignored. One of the most complete instances on record may be found in the *Lancet* for 1872, (February 17 and April 13). In this case the patient was a man, and in the course of his experience, which extended over a period of years, managed to deceive "many physicians and surgeons of great eminence." A craving for sympathy or perhaps notoriety was probably the origin of the imposture; and it may well have been that by use and wont the deliberation involved was reduced to a level no higher than that which is often seen in the case of excitable girls. Trousseau gives an excellent example of the same thing, but this time wholly deliberate.

CASE 36. SIMULATION OF EPILEPSY

"One day Dr. Calmeil and I were talking with Esquirol [on the subject of the possibility of feigning epilepsy, which Esquirol denied] at the Asylum of Charenton, when suddenly Dr. Calmeil fell down on the floor in violent convulsions. After examining him Esquirol turned round to me, exclaiming, 'Poor fellow, he is epileptic.' But he had no sooner said this than Dr. Calmeil got up and asked him whether he still insisted on thinking epilepsy could not be feigned" (LIV, vol. i, p. 42).

It is probably unnecessary to warn the reader of this book against the mistake—far commoner than it should be—of supposing that, because some of the phenomena associated with hysteria *may* be feigned, all are necessarily of this character and could be avoided by the patient without extraneous aid.

II. Paralysis and Kindred Phenomena

Inhibition of muscular movement has been a recognized manifestation in connexion with the practice of hypnotism. To the following description, written in days when the science was in its infancy, subsequent observation has little to add. .

CASE 37. COMPLETE INHIBITION IN THE CASE OF A HYPNOTIC SUBJECT

"Mr. W—— was an officer biologized by Dr. Darling (an early and enthusiastic exponent of 'mesmerism'), whose muscular movements were controlled in every possible way. He was rendered unable to raise his hands or let them fall; he was made unable to move one while he could move the other; unable to sit down or rise up; or to take hold of or let go an object" (XXXIV, p. 353).

In the next case the force of expectation in the same direction is well shown. Three hundred years ago a very different explanation would have been offered. Perhaps it would still be offered. "Our forefathers," says a recent writer, "did not disbelieve in magic, but they held that it was generally 'black'." He implies that he is in agreement with them (IV, pp. 120, 150).

CASE 38. PARESIS SELF-INDUCED BY EXPECTATION

In Kleischke, a small German village, a maidservant was sent out to buy some meat. As she was returning in the evening she thought she suddenly heard a great noise. Upon turning round she observed a little grey man, not bigger than a child, who commanded her to go along with him. She did not, however, return any answer but continued to walk on." Somewhat to curtail the account—the dwarf, becoming angry, told her that for four days she would be blind and dumb. "The girl hastened to her room and threw herself on the bed, unable to open her eyes or pronounce a word. Everything was tried for her

recovery by the family with whom she lived, but all was in vain." At the end of four days she suddenly became normal (LIX, vol. ii, p. 15).

And from John Bull's other Island we have the following :

CASE 39. PARALYSIS INDUCED BY FEAR

Two men were charged at the Limerick Sessions with an assault. The prosecutor was a relation named Rock. He "summoned his own father as a witness. The mother of the prisoners, exasperated at the prospect of her sons being sent to prison on the evidence of her own relative, gave expression to her feelings in a malediction, praying that when the old man left the witness-box he might be paralysed ; and paralysed he was accordingly and had to be taken to the hospital." As he got no better, the old lady was requested to remove the spell, "but this she sternly refuses to do, and the man remains in the hospital " (LVI, May 23, 1868).

Perhaps there is more to be said for Mather and Sprengel than it is the fashion to concede.

Instances are recorded in which the "curse" seems to have recoiled on the imprecators. Major Miller, at one time governor of the Military Prison at Aldershot, is responsible for the following case :

CASE 40. LOSS OF SPEECH FROM A SUDDENLY DEVELOPED "COMPLEX"

"One of our prisoners on being checked at drill by one of the warders, wished that 'God Almighty would strike the warder dumb.' The prisoner was struck dumb on the spot, and did not recover his speech for seven days. During this period he was strictly watched. There was no feigning whatever ; the man was most wretched and alarmed " (LVI, Sept., 1870).

Not infrequently loss of power in a group of muscles follows a strongly marked association of ideas.

CASE 41. LOSS OF POWER FROM AN ASSOCIATED
IMPRESSION

"A woman saw a man with a paralysed arm without any ill effects ; but subsequently, on recalling the circumstance her arm felt numb. On attempting to take up a bottle she was unable to grasp it and let it fall. One side of the body became paralysed. An emetic was administered and she was bled. On recovering from the seizure she explained as above the circumstances preceding the attack. We are not informed whether the symptoms entirely passed away or not " (XXXV, p. 97).

Excessive mental strain has been known to produce transitory effects of the same kind. The following case is recorded by Sir James Paget.

CASE 42. NERVOUS MIMICRY AS A RESULT OF SEVERE
MENTAL APPLICATION

"I saw one day a young gentleman who had been overworking for a Civil Service Examination. After a three hours' mathematical exam. he fainted, and when he rallied, had a very close mimicry of paraplegia, which lasted many weeks." In this connexion Paget adds this salutary warning : "Nothing can be more mischievous than a belief that mimicry of organic disease is to be found only or chiefly in the silly selfish girls among whom it is commonly supposed that hysteria is rife or an almost natural state. It would be safer for you to believe that you are likely to meet with it among the very good, the very wise, and the most accomplished women " (LX, pp. 200, 185).

In this connexion the distinction between "functional" and "organic" conditions must, in spite of the woeful confusion of thought which has accompanied much disputation on those elusive terms, be kept in mind. It is clear that there is no reason why a sudden or marked emotional disturbance should not cause a rapid rise in arterial tension, resulting in cerebral hæmorrhage with all its familiar

symptoms. One such case is described by Dr. Bastian as having occurred in University Hospital (XXVIII, April 25, 1874); and of course there are many others. A typical instance of the transitory effects of excitement (engendered at a Revival meeting) is :

CASE 43. FUNCTIONAL PARESIS FOLLOWING EXTREME
RELIGIOUS EXALTATION

"A girl, æt. 14, while singing, fell down instantly, deprived of speech and sight, the mind as active as ever. This occurred in the evening; in the night she slept three hours and woke in the same condition, and remained so till the next day—eighteen hours altogether—when she regained her voice and sight as suddenly as she had lost them. Medical remedies had been tried, but without effect; mental impressions, similar to those which caused cured the malady" (XXX, vol. i, p. 314).

Not infrequently the dividing line between genuine (though "functional") paralysis and a deliberately assumed helplessness, inspired by a morbid craving for attention, is not easy to define. The following case, related by Dr. Ormerod, seems to belong to this border state :

CASE 44. "PARALYSIS" OF DOUBTFUL CLASSIFICATION
INDUCED BY EMOTION

Some years ago a young girl who had been, apparently, in the most robust health met with a disappointment of a rather serious nature. She developed an extensive paralysis of the lower limbs, and became a hopeless invalid. Specialists of all sorts were called to examine her, but could do nothing to alleviate her symptoms, and hope of cure was finally abandoned. Then one day her nurse, happening to come into the sickroom unexpectedly, saw her walking across the floor from the bed to the window. The result of this discovery was, of course, that all sympathy was alienated from the patient, who gradually recovered. (CXV, Mar. 24, 1914).

Loss of voice, usually as the result of paralysis of the recurrent Laryngeal Nerve, in hysterical subjects is familiar to many outside the medical profession. In the case next to be recorded the patient, though profoundly affected by grief and fear, does not appear to have been of an hysterical temperament.

CASE 45. LOSS OF VOICE RESULTING FROM FEAR AND
MENTAL DISTRESS

"His voice had been gone for five weeks. I held a long, cheering and soothing conversation with this very stout and healthy person, during which he became satisfied that there was no return of a complaint, the thought of which weighed heavily on his mind." Commonsense directions followed. "A week afterwards his voice had fully returned" (LXII, p. 327).

III. Effect of Mental Disturbance on Involuntary Muscles

Many of the effects of mental strain or emotion on the nervous contraction or relaxation of involuntary muscles in various parts of the body are so commonly observed that they have literally become household words. No one needs to be informed, nor need cases be quoted to prove that the surface of the body may become pale and chilled as the result of capillary contraction due to fear, or that the pupil may dilate from the same emotion, or (in extreme cases) "every particular hair" "stand on end like quills upon the fretful porcupine." Almost every one must have blushed at some period or other of his life and found his appetite for breakfast impaired by anxious or unwelcome news. It is recorded of Ruskin that the first sight of the Science Museum at Oxford caused him to be violently unwell. Bismarck in his Memoirs does not scruple to relate

that when he read the "bowdlerized" telegram to Moltke and Von Roon—by which two countries were plunged in war and half a million men in the prime of life doomed to death and mutilation—the delight of the two warriors was so great that it restored the desire for food and drink which had previously left them owing to the sickening apprehension lest peace might be preserved.

Darwin regards the erection of hair as a survival.

"These appendages," he says, [hairs, feathers, etc.] "are erected under the excitement of Anger or Terror; more especially when the emotions are combined or quickly succeed each other. The action serves to make the animal appear larger and more frightful to its enemies or rivals" (LI, p. 101).

When we come to consider such effects in detail, and especially in connexion with extreme or striking manifestations, it at once becomes apparent that it is not always easy to decide how much of the effect produced must be assigned to a mental and how much to an organic cause. This is particularly true of the heart. In many instances there is no reason to suppose that any organic lesion exists, e.g.:

CASE 46. FUNCTIONAL DERANGEMENT OF THE HEART THROUGH IMAGINATION

Romberg states that Peter Frank was often seriously disturbed while preparing his lectures on cardiac maladies by palpitation, rapidity of pulse, etc. He is said to have been seriously afraid of aneurism. On many occasions the disquieting symptoms persisted until he was clear of the scientific *entourage* and had returned home (LXIII, vol. ii, p. 6).

In the well-known case of John Hunter, on the other hand, the utmost that can be said is that severe emotional disturbance had a profound—as it

proved, a fatal—effect on a heart that was extensively diseased. Hunter always insisted that even a slight strain “brought on the spasm” and that his “life was at the mercy of anyone who chose to put him in a passion” (XLV, 1, p. 336). The following is a remarkable case of death from expectation, in which it is impossible to be sure of the preceding condition of the heart.

CASE 47. DEATH AS THE RESULT OF EXPECTATION

“An American lady, Miss Bonney, residing at Aren, N.Y., became impressed with the conviction that her spirit was to leave the body for a time and then return. She succeeded in convincing several of her friends that this would actually occur. She complained of no illness, but one day announced that the time had come for her departure, and after her tea she took to her bed, while she remained calmly conversing with several friends until midnight. She was seen several times between that hour and two o'clock. At this time she exclaimed, ‘Oh, this is glorious,’ and ceased to breathe. There was no struggle, and no evidence of pain. Her friends, of course, regarded the event as a fulfilment of her prediction. Miss Bonney’s remains were kept unburied from November 10 to January 5 in the expectation of the return of her spirit. . . . There was a post-mortem examination, and no cause of death could be discovered, but, considering the interval which had elapsed, no importance could be attached to this” (XXX, vol. ii, p. 26).

Fainting as a result of fear or acute mental distress of any kind is common enough; nor is it altogether rare after extreme excitement of a pleasanter variety. In the case of Lucretia Davidson, the child poetess of America, who died prematurely at the age of 17, it seems to have occurred not infrequently as a consequence of a less commonly noted cause.

CASE 48. FAINTING FROM EXCESS OF ÆSTHETIC PLEASURE

"Her susceptibilities were so acute, and her perceptions of beauty so exquisite, as to cause her to faint when listening to some of her favourite melodies from Moore. Yet notwithstanding this serious impression she would beg to have them repeated, so delicious were the sensations produced" (LXIV, vol. xvii, p. 219).

Readers of *The Picture of Dorian Gray* will recall that exotic hero's asseveration that "while pathos left him unmoved, beauty made his tears flow."

The following instance of, not fainting but death, ensuing on excitement which was presumably not disagreeable is so delightful an echo of the roaring of the "young lions" at their lustiest, but now, alas! heard no more, that it is worthy of being quoted in full. The incident occurred at Köthen in Anhalt.

CASE 49. DEATH FROM PLEASANT EXCITEMENT

"A middle-aged man entered the room and sat down to play. After a run of great luck, his winnings had augmented to the sum of a thousand ducats—equal to nearly £500 sterling—which the croupier pushed over to him. The fortunate gambler did not appear very anxious to have the gold and notes, and made no response when he was asked if he wished to continue playing. One of the servants touched him on his shoulder to draw attention to the unheeded winnings and to the croupier's question, but the man remained strangely immovable; and when they came to look closer, they found that he was dead. He had 'passed' like the red! *Rien ne va plus* had proved true of himself, as well as of the last roll of the ball. Was it his good luck that had been too much for him? A thousand ducats is a pretty sum . . . but it seems hardly adequate to kill a man under any circumstances. At all events the gambler was dead—some sudden 'click' in the mechanism of life had spoiled the works and made the subtle pendulum of being stop in its mid-swing" (LXV, March 7, 1870).

Induction of *vomiting* by a deliberate appeal to the

imagination is well shown in the next case cited. It was a rather heartless experiment tried—in fact, a trick played—on 100 patients in a Paris hospital.

CASE 50. VOMITING AS A RESULT OF IMAGINATION

“The house-surgeon administered to them such inert draughts as sugared water ; then, full of alarm, he pretended to have made a mistake in inadvertently giving them an emetic. . . . No fewer than eighty—four-fifths—were unmistakably sick. How many of the rest suffered from nausea is not stated ” (LXVI, p. 124). Commenting on the morality of this incident, Dr. Hack Tuke very sensibly observes : “ We need not approve of the pious fraud of the *infirmier*, but the experiment having been made, it is a pity that so many people should have been rendered miserable without good use being made of their discomfort.” Quite so.

“ *Purging* by the action of the historic bread pill is so common and so widely recognized that it need not detain us. Dr. Crichton found in Pechlin an extreme instance of a Leyden student who “ in want of a purgative, looked in the index of a medical work for the word ‘ pill,’ which he supposed must be a purgative, and took one containing opium, hyoscyamus and other astringents.” The effect was entirely satisfactory. (LIX, vol. ii, p. 446).

The effects of association of ideas are often well marked in involuntary muscles. Thus, when Princess Charlotte died in confinement, the result of the news of her greatly lamented death was injuriously to retard labour in many instances. Dr. Gooch, in relating this, as having come under his own observation, rather quaintly adds that “ we must keep up the spirits of our patients (at such times) by anecdotes of the most favourable accouchements of those who have entertained equal apprehensions ”

(LXVII, p. 181). There is sound sense in this ; but a good deal will depend on the way in which it is done.

Similarly Sir James Paget notes that within a fortnight of the death of Napoleon III no less than four persons came to him with all the symptoms but none of the signs of vesical calculus (LX, p. 45).

Perhaps the most striking instance of this on record is the following quoted by Dr. Moore :

CASE 51. MUSCULAR SPASM AND DEATH FOLLOWING
INVOLUNTARY ATTENTION

“ A gentleman who had constantly witnessed the sufferings of a friend afflicted with stricture of the œsophagus, had so great an impression made on his nervous system, that after some time he experienced a similar difficulty of swallowing, and ultimately died of the spasmodic impediment produced by merely thinking of another's pain ”
LXVIII, p. 273).

CHAPTER XIII

DIVERS DOINGS OF THE MIND

BEFORE we pass to the detailed review of the therapeutic possibilities inherent in mental activities, a few selected instances illustrating powers of the mind which cannot properly be grouped under the heading either of sensation or of movement remain to be considered.

I. The Control of Sleep

(1) WAKING AT WILL

This is a faculty possessed by large numbers of people. A man who wants to wake day by day at an earlier hour than the rest of his household is usually able after a year or two to dispense with an alarm-clock. Impressions many times registered in the cortical cells begin to act automatically, and the sleeper wakes without external aids. But beyond this, it is not at all uncommon to find that a person can, by knowing, before he goes to sleep, the hour at which he wants to get up, rely on waking at the appointed time. This, as Dr. Hack Tuke observes, "involves an automatic calculation of the lapse of time" by the subconscious mind.

(2) INDUCTION OF SLEEP

The extent to which sleep can be self-induced by a sensitive patient is well shown in the following

case recorded by Dr. Elliotson. The subject was a lady whom he had frequently "mesmerized."

CASE 52. SLEEP INDUCED BY IMAGINATION

"Mere imagination was at length sufficient, for I one day told her that I would retire into the next room and mesmerize her through the door. I retired, shut the door, performed no mesmeric passes, but tried to forget her, walked away from the door, and busied myself with something else—even walked through into a third room; and on returning in less than ten minutes from the first, found her soundly asleep, and she answered me just as was usual in her sleep-walking condition" (XXIV, vol. iv, p. 47).

The power of suggestion, quite apart from hypnosis, was long ago recognized as being of the greatest use in overcoming insomnia. Prof. Laycock found that "any simple remedy administered to the patient so as to impress him with the conviction that it will cause sleep, is followed by sleep, and sometimes, when convalescence is approaching, by as prolonged a sleep as if a narcotic had been taken. In one case of this kind the long sleep which followed upon a *placebo* excited alarm" (LXIX, Nov., 1862). Subsequent investigation amply confirms this view. Dr. Noble has related one case in which a very strong aperient pill had no purgative action, but replaced insomnia by sound and healthy sleep, the patient supposing that an opiate had been administered.

In the same way there can be little doubt that an expectation of a wakeful night will frequently cause a person to woo sleep in vain. Mr. Gladstone, it will be remembered, regarded himself as the "spoilt child of sleep" but always dreaded sleepless nights in connexion with cabinet-making. It is probable that, after a long term of years, this fear automati-

cally deprived him of sleep, even when the "make-up" of the new Liberal Government was a matter which involved no unusual difficulty.

II. Maternal Impressions

This is a fascinating subject on which it is difficult to pronounce an absolutely convincing verdict. On the whole, the evidence is against the alleged phenomenon. There are, it is true, plenty of recorded instances which at first sight appear to be conclusive. Nor is it any answer to assert that maternal impressions cannot affect the offspring because Weismann (or any other high authority) shows that it is impossible. If the evidence is good enough, we must be prepared to admit that an "impossibility" has taken place. Here are two such cases. The first is described by Mr. T. Smith, at one time surgeon to St. Bartholomew's Hospital.

CASE 53. ALLEGED "MOTHER'S MARKS"

"One cannot doubt that these marks occasionally appear on children in connexion with mental impressions received by the mother during pregnancy. . . . I will show you a striking case that came under Mr. (afterwards Sir James) Paget's observation. This child was admitted into St. Bartholomew's Hospital in 1865. She was at that time 12 years old. The left upper extremity and the greater part of the corresponding side of the trunk and neck were deeply stained with dark brown pigment, from which grew an abundant crop of brown, harsh, lank hair, ranging in length from one to two inches. The skin was rough and harsh, the arm was long, thin, and withered; the scapula was unnaturally prominent. In fact, the upper limb, shoulder and back, bore a very strong resemblance to the corresponding part of a monkey. The mother stated that when three months pregnant with the child she was much terrified by a monkey attached to a street organ, which jumped on her back as she was passing by. . . . I need

scarcely say that such a case does not stand alone" (XXVIII, August 17, 1867).

The second case is recorded by Dr. Hack Tuke on the authority of Dr. A. J. Alliot, of Sevenoaks.

CASE 54. NÆVUS AS THE RESULT OF A MATERNAL
IMPRESSION

"Mrs. A. is the wife of one of the officers at a large country asylum. J. W. is a patient in the same asylum, working in the stores, and disfigured by a large nævus patch, of a fiery-red hue, which covered the whole of the right side of the face. Mrs. A. had, of course, frequent opportunities of seeing the man at the Sunday Chapels, and on other occasions; during her last pregnancy she entertained a feeling of horror and disgust at his appearance. On the child being born, the first question she asked was, 'Is he marked at all like that man?' The answer was, 'No, as far as can be seen at present.' On examination the next day, however, a distinct nævus patch of the size of a threepenny piece was observed on the left upper eyelid." This afterwards spread to a certain extent. "Mrs. A. told me she had been fretting herself so much about this man's appearance, that she thought about it night and day. Her other children were not marked in any way (XXX, vol. ii, pp. 66-70).

These two instances, as Mr. T. Smith truly says, "do not stand alone." The total number includes cases in which the *bona fides* of the narrators is not lightly to be impugned. But, putting the possibility of coincidence for the moment on one side, we have to remember the strong tendency from which few can claim to be entirely free, to make facts conform to a preconceived theory and, without any intentional deceit, to exaggerate a casual and almost unnoticed incident into a strong, dominating impression. The only way to correct this is to carry out "control" experiments over a tolerably wide field. This has been done more than once, and the

result seems to have been invariably the same. Thus, in America Dr. Fisher over a space of twenty years, dealing with 1,200 cases in all, made a practice of asking expectant mothers if they were, on account of an impression during pregnancy, afraid of some abnormality in the child. Nearly all said that they were. Yet during this period "only two cases of malformation occurred and these did not appear to be in any way connected with the longings, etc., of pregnancy" (LXIV, Jan., 1870).

III. Stigmatization Phenomena

On this subject controversy has been keener and more bitter than over maternal impressions. Theological animus has added fuel to the flame. It is really astonishing that able and probably just and sincere men should have shown such a manifestly strong *desire* to disprove the existence of the alleged phenomena or to maintain that, if the stigmata existed in any case, they were produced by artificial means. It has been a common subject of reproach against those who have been anxious to defend some theological position that from the Roman Curia of the seventeenth century down to Bishop Wilberforce they have often displayed even less wisdom than charity in attacking scientific statements in respect of occurrences which would probably come to be accepted as established facts. If scientific men manifest the same intolerance, they cannot complain if they are regarded as being animated by the same disingenuous intention to discredit inconvenient facts which cannot be ignored.

But why, it may be asked, should the phenomena of stigmatization be "inconvenient"? They do

not involve either a physiological or a pathological impossibility. No one who really knows anything of the powers of Mind would be prepared to deny that intense concentration of thought can produce lesions similar to those which were the objects of contemplation. Admittedly it is an extreme manifestation of such powers. So far as our present knowledge goes, it involves a complete inhibition of the vascular and probably of the neuro-trophic supply to a strictly localized area, followed by a complete reversal of the process, with a persistently abnormal, increased, capillary circulation, the whole being almost certainly brought about without any direct effort of the conscious mind. As M. Maury well reminds us, stigmatization is "the most striking proof of the influence of the Imagination upon the body, and is truly a miracle, in the sense of being one of those marvellous effects of the laws of thought, whose secret escapes and whose extent confounds us" (XXXI, 1855). But, even if we cannot profess to offer a wholly adequate explanation of the phenomena, we have enough knowledge and experience of closely analogous phenomena to justify the view that they are as natural as the formation of callus round the disconnected ends of a broken bone.

The answer seems to be that they imply the inherence of a very high potential dynamic in spiritual exaltation. If we are forced to admit that stigmata have existed, albeit in very exceptional cases, the modern view that so-called miracles are in fact perfectly orderly happenings induced by the bringing into play of an element which man is free to develop or ignore at will begins to assume a very reasonable aspect. Now, the "materialist" is

probably as extinct as the "atheist," if indeed he ever existed. But the materialistic attitude of mind which regards all spiritual fervour, every venture of faith, the whole realm of thought which is concerned with speculations, not subversive of, but transcending reason, as regrettable aberrations which time and knowledge have failed to correct—this is very much alive. Few of us can look on with equanimity when an unwelcome and intrusive bit of evidence threatens to demolish the edifice which we found so satisfying. Fewer still like to be accused of the same intellectual limitations for which they have always felt and expressed compassion, not perhaps, entirely devoid of condescension. *Hinc illae lacrymæ.*

We may now turn to the evidence for stigmatization.

1. Nothing substantial has been added in recent years to the exhaustive work of Dr. Imbert Goubeyre in 1873. He collected in all 145 recorded cases. More than half of these belong to a period earlier than the eighteenth century. With regard to the remainder, the evidence is of all varieties from good to bad (LXX, esp. pp. 12, 13).

2. The case of St. Francis of Assisi need not detain us. Some of his biographers have laid legitimate stress on the wealth of testimony to the reality of the stigmata which had accumulated before his death (e.g., LXXI, pp. 234–9). Nor is it easy to suppose that they can have been consciously self-inflicted. But the period is too remote for anything like certitude.

3. The best attested modern instance is :

CASE 55. THE STIGMATA OF LOUISE LATEAU

Louise was a young woman of 24, living at Bois d'Haine, Hainaut, Belgium. Her temperament had been from earliest childhood deeply devotional. She had taught herself to meditate before she was 10 years old. The constant subject present to her mind in prayer and meditation was the Mystery of the Passion. On April 10, 1868, when she was 19 years of age, she passed into a condition of ecstasy, and so remained until the 21st. The stigmata then appeared for the first time. Blood was seen flowing in small quantities from the left side on Friday, April 24. The following Friday the same thing happened, and in addition there was bleeding from the feet. On the third Friday the palms of the hands were similarly affected. These hæmorrhages were repeated until September 20, when for the first time blood also flowed from the forehead. At first, the phase of active bleeding lasted seven or eight hours, afterwards over a shorter period. So long as it continued Louise was "insensible to all external stimuli, appeared to be present at the Crucifixion, and revealed by action and expression the emotions by which her mind was affected" (LXXII, esp. pp. 13, 15).

So far the account has followed the best biography available. The material appears to have been collected from various sources. Louise herself showed no disposition whatever to invite attention to the physical accompaniments of her times of ecstasy. The statements were not investigated and cannot be guaranteed. But in 1874 the Royal Academy of Medicine of Belgium appointed a commission to examine and report on the alleged phenomena. Louise consented to put herself in the hands of the commissioners, on the understanding that thereafter she should be allowed to live her own life and not be troubled by further investigation. The commission was engaged in the work of detailed examination for five months. At the end

of this time one of the commissioners, M. Warlomont, drew up a report. This may be summarized as follows:

(i) Small open wounds were found on both palms. Their exact depth is not stated. They do not seem to have extended to the back of the hand. A similar condition was found in the feet. The side does not appear to have been examined. In the forehead no scarring could be detected. When bleeding from the forehead occurred, the blood seemed to be making its way through the unbroken skin.

(ii) Active bleeding took place every Friday, coinciding with a condition of ecstasy. During this time Louise was quite insensible.

(iii) In order to render artificial stimulation impossible, the commissioners on one occasion enclosed the right hand in an apparatus of their own contriving for twenty hours before hæmorrhage was expected to occur. The nails were cut short; and the girl was carefully watched. Bleeding always occurred at the expected times, no matter what precautions for the prevention of imposture were adopted.

(iv) The conclusion of the commission was unanimous, that the stigmata and ecstasies were genuine. The explanations given differ in some respects one from the other. The commissioners were able men and quite competent to recognize that only by the aid of analogy (as pointed out above) can any physiological explanation be said to be in every respect adequate or satisfactory.

It may be added that it is much to be hoped that some more recent case of stigmatization may be offered for investigation.

Results of a somewhat similar kind have fairly often been obtained apart from the stimulus of religious emotion. The following is one of Forel's cases.

CASE 56. VESICATION INDUCED BY SUGGESTION

"Forel drew two light crosses with the point of a blunt knife on [a nurse]. They did not bleed. Another cross was made on the inner side of each forearm. Several doctors were present. Forel suggested the appearance of blisters on the right side. At the end of five minutes, during which Forel watched the subject, so that fraud was out of the question, a considerable reddish swelling of the skin had appeared. A wheal, looking like nettle-rash, had formed itself round the cross. On the left side nothing was to be seen but the cross as it had originally been drawn. The wheal on the right side resembled a vaccination pustule in the form of a cross, but it was simply a papular swelling as in nettle-rash. Forel then suggested the disappearance of the swelling and the wheal. This happened within an hour. He wished later to watch this experiment in vesication from beginning to end. But the subject was made very angry and excited by the words and gestures which showed her that she was mistrusted. In Forel's opinion this caused the non-success of the experiment. After this no more vesication appeared, either with or without watching; a slight reddening of the skin was all that was obtained. Forel holds the very plausible view that the subject's mental excitement was prejudicial to her later suggestibility" (CXXX, p. 137).

Charcot and Liébault produced blisters in many of their patients. Jendrassik and Krafft-Ebing did the same. Of the latter it is said that,

"If some object, such as a match-box, a pair of scissors, a snuff-box, etc., was pressed upon the skin, and the subject was at the same time told that the skin was being burned, a blister in the form of the object resulted. The marks remained a long time visible. If the object was pressed upon the left side of an hysterical patient, anæsthetic on

the right, the burn appeared symmetrically on the right as it would if reflected in a glass, as could be especially seen when letters were used. Jendrassik maintains that deception was absolutely excluded in these cases of suggested burns. Besides this, a dermatologist, Lipp, at one of the experiments declared that it would be impossible to cause the suggested lesion mechanically or chemically" (CXXX, p. 132).

The following is one of Delbœuf's experiments.

CASE 57. SIGNS AND SYMPTOMS OF BURNS AT THE WILL
OF THE OPERATOR

"The subject J—— was a healthy young woman who had for several years been one of his servants. Delbœuf first explained what he wished to do and obtained her consent in the waking state; then he hypnotized her and extended her arms upon the table, heated red-hot a bar of iron, eight millimetres in diameter, and applied it to both arms, taking care that the burns should be identical in duration and extent, while at the same time he suggested that she should feel pain in the left arm alone. Each arm was covered with a bandage. During the night J—— had pain in the left arm, but felt nothing in the right. Next morning Delbœuf removed the bandages; the right arm presented a defined eschar, the exact size of the iron, without inflammation or redness. On the left was a wound of about 3 cm. in diameter, with inflamed blisters. Next day the left arm was much worse and J—— complained of acute pain; Delbœuf hypnotized her and removed the pain by suggestion. The wound dried and inflammation rapidly disappeared" (CXX, p. 152).

Still more remarkable are Krafft-Ebing's successful experiments in the production of a pre-arranged body temperature in his patients.

"He succeeded," we are told, "in producing any temperature he pleased in his subject. The most enigmatical point with regard to this appears to be that the subject showed the exact degree of temperature commanded—viz., 36° C.—when examined by the thermometer. As it is evidently utterly out of the patient's power to influence

this instrument mentally, we must assume an astonishing capacity for regulating the temperature of the body" (CXXX, p. 129).

IV. Some Pathological Effects of Mind

Of these it is only possible to detail a few typical or instructive instances. The explanation of all is probably the same. Prof. Laycock has rightly said that "Pain is the sentinel of the organism" which "ushers in or accompanies a series of vital changes, the end of which is the prevention of evil, or the restoration to health from illness" (LXXIII, vol. ii, pp. 27, 35). But the zeal of the sentinel may prove to be as excessive as was that of Mr. Masterman Ready; and, as in the case of hyperpyrexia, well-intentioned efforts may end in disaster to the individual concerned.

(1) DIABETES

as the result of severe nervous strain has often been observed. It is impossible to add anything to a statement made by Dr. Richardson in days when far less was known than at present of the intimate relation of diabetes to many types of psycho-neuroses. "They constitute a hopeless class; the danger sudden, the course rapid, the fatal end sure" (XLIV, 1868, p. 231).

(2) HÆMOPTYSIS

Several cases are recorded, but in none is it clear that the lungs may not have been extensively diseased. An extreme instance is quoted from Broussais by Dr. Sweetser:

CASE 58. HÆMOPTYSIS AND DEATH FOLLOWING ON VIOLENT EMOTION

"[A lady], on feeling a living frog fall into her bosom

from the claws of a bird of prey whilst she was sitting on the grass, was instantly seized with such a profuse bleeding from the lungs that she survived but a few minutes" (LXXIV, p. 28).

(3) BLOODY SWEAT

A good instance of this is described by Dr. Handfield Jones.

CASE 59. BLOODY SWEAT AS A RESULT OF EXTREME FEAR

"A sailor, aged 30, was so alarmed by a storm that he not only fell on the deck speechless, but on going to him, Paulini observed large drops of perspiration of a bright red colour on his face. At first he imagined that the blood came from the nose, or that the man had injured himself by falling; but on wiping off the red drops from his face, he was astonished to see fresh ones start up in their place. . . . On wiping and carefully examining the skin, he distinctly observed the red fluid exuding from the orifices of the sudoriparous ducts. As the bloody perspiration ceased, the man's speech returned" (LXXV, p. 61).

(4) JAUNDICE

not at all infrequently follows a period of mental distress or strain in persons who had not shown any earlier predisposition to jaundice. In the *British Medical Journal* of November 19, 1870, such a case was described in detail by Mr. T. Churton, of Erith. Many similar cases have since been recorded.

(5) BLANCHING OF HAIR AND ALLIED PHENOMENA

There is plenty of trustworthy evidence for "hair turning white in a single night"—or at any rate in the course of a very few days. It is said to have occurred in the case of Marie Antoinette during the journey from Varennes to Paris. Sir Erasmus Wilson contributed an extremely interesting account of a case of the same kind to the *Lancet* of April 20,

1867. At that time no one had heard of *pigmeto-phagi*. It is quite possible that abnormal activity of these organisms under the spur of an excessive nervous stimulus (or conversely by the temporary suspension of a restraining nervous mechanism) may be the most important immediate cause. Certainly, interference with supply of nutriment does not seem to be sufficient to account for the phenomenon. The following striking case is recorded on the authority of Mr. W. P. Cocks, of Falmouth.

CASE 60. HAIR TURNING WHITE, ETC., THROUGH MENTAL ANXIETY

"Thomas W——, about 20 years of age, the son of a milkman, was tall, fleshy, good-looking, slightly bronzed, hair intensely black, stiff, wiry, and rather inclined to curl. One of his thoughtless companions told him (what was not true) that a young woman in the town was going to swear before the magistrate on the morrow that he was the father of her child. Poor W—— was dumbfounded. . . . He hastened home and sought relief in his bedroom. Sleep was denied him, for his brain was on fire. He saw nothing but disgrace coming from every angle of the room. . . . Early morning brought no relief; he looked careworn, distressed, and his hair was changed from its natural tint to that of a light iron-grey colour. . . . In the course of the following day the stupid trick was explained, but the ill effects of it lasted for a long period. Nearly twenty years after, although his health was fair, the mental powers retained signs of the severe shock they had received; his hair was perfectly grey, and it was but too clear that he would carry the marks of this folly to his grave" (XXX, vol. ii, pp. 80-1).

(6) DIGESTIVE DISTURBANCE

This is too well known to detain us (cp. pp. 234-5); but the following instance as recorded in his very racy "Sketches" by Mr. Fletcher is so quaintly told that it cannot be omitted.

CASE 61. DIGESTION IMPAIRED BY ANXIETY

Mr. Fletcher cites the case of a barrister whose health was flawless, except on circuit, when extreme anxiety in relation to the causes in which he was engaged destroyed his appetite. If food was eaten there was severe abdominal pain. The tongue was the tongue of a dyspeptic. As soon as the anxiety was over everything became normal, "his appetite, a distinguished one, returned with such uncontrollable force that this limb of the Law stops at a half-way house on his return home [and dines upon] the limb of an animal less dangerous than himself" (LXII, p. 19).

(7) CHOLERA

The story of the Russian convicts under sentence of death who were placed in beds untruly said to have been recently occupied by cholera patients may be apocryphal. The following case seems to be well authenticated.

CASE 62. CHOLERA AS THE RESULT OF FEAR

"When some years ago the cholera was prevalent at Newlyn, intercourse was forbidden between the village and other places in the neighbourhood. One day a man entered the shop of a barber in Penzance; and was shaved. On leaving, some one who had recognized him asked the barber if he knew whom he had been shaving. He replied that he did not. 'Why, he's a man from Newlyn.' It was enough. The terrified barber was seized with cholera, and died within twenty-four hours" (XXX, vol. ii, p. 104).

No case appears to be recorded in which the cholera vibrio has been detected as the immediate cause of the illness of fear-infected patients. Probably the true malady is a severe enteritis. The next case is much to the point. There is no suggestion that the patient developed symptoms of bubonic plague.

CASE 63. DEATH ACCELERATED BY FEAR OF PLAGUE

M. Andral quotes the case of a young man of 22 who

was convalescing in a Paris hospital after a mild attack of dysentery. Some one thoughtlessly told him that plague was raging in the Paris hospitals. This was not the case. The young man was greatly alarmed, and "he regarded himself doomed to inevitable death. The pulse became rapid after having improved, stupor appeared, and he died three days afterwards." At the post-mortem examination "anatomy discovered neither in the nervous centres nor elsewhere any lesion whatever to account for the alarming phenomenon which hurried him to the grave" (LXXVI, p. 782).

(8) RABIES AND EPILEPSY

It is not necessary to supplement the instances already cited (see p. 222). In the matter of rabies, it was long ago maintained by Bichat that anger inoculates the saliva with matter "*qui rend dangereuse la morsure des animaux agités par ces passions, lesquelles distillent vraiment dans les fluides un funeste poison*" (LXXVII, p. 43). This view, far from being physiologically absurd, is strongly supported by our comparatively recent knowledge of such toxins as are contained in products of fatigue; but clinical experience is against it. Few animals from a dog up (or down) to "another lidy" bite except in extreme anger, and, if Bichat was right, death from the bite of non-rabid animals ought to be much commoner than it is. When the present writer was in Macedonia, a Tangerine monkey was the unit mascot for more than two years. He was an engaging little animal when in a placid state, but his temper was simply villainous. Nearly everyone in the Field Ambulance (and many others) must have been bitten by him at one time or another. Yet no one seems to have developed even a septic arm.

(9) CHOREA

Chorea, following emotional disturbance and especially fear, is much in evidence at the present time. When all allowance is made for the natural "mythopeic" tendency of parents, the number of cases in which previously healthy children are said to have had a first attack after an air-raid is remarkable. The whole subject would repay careful and detailed investigation.

(10) DEATH FROM EMOTIONAL CAUSES

Characteristic instances have already been quoted in connexion with the influence of the mind upon involuntary muscles (see pp. 233-8). The two following cases are striking examples of the same effects. The first is related by Mr. J. H. Sealy.

CASE 64. INANITION FROM EXTREME MENTAL DISTRESS

"Returning from a professional visit late one evening, I was met by a medical friend who begged me to see with him a gentleman whom we had both previously well known, stating that he was in a deplorable state and wished to see me. I at once consented, and we walked on together. 'You have, of course,' said he, 'heard of his unfortunate accident.' I said I had heard some vague reports of his having shot some gentleman accidentally. 'Alas,' said he, 'that was not all. You must remember him, one of the handsomest young men in the university? Wait until you see him now, his form is reduced to a skeleton, and his strength scarce that of an infant. The circumstances are these: He was shooting at his uncle's in —shire, when his cousin, to whom he was much attached, about his own age and an only child, irritated him by some frivolous remarks while out shooting. Words ran high on both sides, and they being only attended by a little boy of 10 years old, who could not interfere, a struggle ensued, in which the poor victim we are going to see shot his cousin on the spot. He then returned to his uncle's house, detailed the events, from the effect of which within a month

he saw his uncle and aunt carried to their graves, while he exists a miserable wreck, soon to follow them.'

"Such as he was described I found him : his hand was hot and feverish ; his cheek was pale and withered, and his frame a perfect skeleton ; his voice was deep and hollow. and his expression agonized and wretched, yet he complained of nothing. It was clear that his nervous circulation was suspended ; yet his thinking principle was awake, and consciousness alive " (LXXVIII, p. 50).

The second case was described in a report sent to the *Lancet* by Dr. J. E. Cooney, a London practitioner.

CASE 65. DEATH FROM SUDDEN EXCITEMENT

"G. E. H., aged 7 years, the son of a sweep, had been witnessing a fight between two gipsy lads, when, as the contest became exciting, he suddenly fell backwards and was dead in a few moments." It appears that he was quite normal in all respects, but "was easily excited by the slightest unusual occurrence." At the autopsy no organic lesion was discovered. The structures of the heart were entirely intact. The right side was, as might have been expected, distended with blood (XXVIII, Sept. 1, 1883).

Many similar cases are recorded in history. Pettigrew quotes the following :

"Sophocles at an advanced age, and in the full possession of his intellectual power, composed a tragedy which was crowned with such success that he died through Joy ; Chilon of Lacedemon died from Joy while embracing his son, who had borne away the prize at the Olympic games. Juventius Thalma, to whom a triumph was decreed for subjugating Corsica, fell down dead at the foot of the altar at which he was offering up his thanksgiving. Fouquet, upon receiving the intelligence of Louis XIV having restored him to liberty, fell down dead " (LXXIX, p. 96).

But how many of these illustrious victims of sudden happiness may have suffered from cardiac lesions we do not know.

CHAPTER XIV

THE SECRETS OF THE SUBCONSCIOUS

PART I

A GENERAL SURVEY OF THE HIDDEN MECHANISM OF THE MIND

IMPRESSIONS which strike the senses can cause an unconscious reactive vibration of the mentality without the participation of the will.

Thought seems so essentially a *personal* matter. The reality of ideas and feelings is so intimately bound up with our sense of having these particular ideas and feelings at some particular instant, that it is difficult to realize that our mind can work unperceived. That we can unconsciously reason and act seems at first blush a wild assertion. Yet we have learnt to recognize that a host of mental activities are always operating beyond the immediate ken of our attention.

Aristotle says our mental eyes are ordinarily as dim as those of an owl at noon. We certainly cannot call up an idea by simply willing it. We are only able to get hold of an idea which is not in mind at the time by thinking of associate ideas which will be likely to produce the thought we are in search of.

The operation of memory—perhaps the greatest

function of the brain—works almost entirely unconsciously. Professor Bergson advances an ingenious theory to explain this. He argues that the past is not something gone by, but that we carry it with us. It is simply a mental modification. Something we have added to our experience. The mechanism of the unconscious hides it from us when we do not need its help. Presumably to be fully conscious of all our past at once would be too exhausting. That few have wished for memory so much as they have longed for forgetfulness, is proverbial.

Memory, therefore, according to Professor Bergson, is simply the past that we have gathered up and carried along with us.

The idea of another dimension, superior to space, we derive from the subconscious nature of our mentality. Listening to music, for instance, we receive a twofold impression :

1. A note in a chord is present to the senses as a number of a series.

2. The listener also grasps at once a whole series. The relationship between the two experiences will depend on interest, temperament and training.

So much for the more individualistic aspects of the subconscious. There is, however, a wider ethnic view that has to be considered in any analysis of human character.

Sir T. Clifford Allbutt points out : “ It is true that we do not know even approximately the content of the individual man, the materials racially and personally acquired, the products of past experience, racial and personal, built sensibly and insensibly into his personality. May we not each of us be compared with a ship which began its voyage with no inconsiderable rudimentary equipment, then, calling at many a port, has gathered many kinds of stores

and treasures? Of some of these stores, of some variety of them, the supercargo has a recollection, especially of those in frequent use; but for the most part, the bills of lading had been lost. Unlike a cargo, however, these contents are not a passive burden by a system of co-efficients; some on planes that we commonly call material, some on spiritual planes, some working on the surface, some working stealthily within."

It is suggested that our habitual stream of consciousness may not be our only one, the theory being that physical functions now regulated by the subconscious were originally under the direct control of the will. Facts adduced in support of this theory are, for instance, the capacity that animals possess for the inhibition of pain, a power unknown to us. "Fowls will pick up food only a few minutes before death. Horses after receiving ghastly wounds in battle have been found contentedly cropping grass," says an authority.

The phenomena of absent-mindedness are directly due to the automatic action of nervous discharges in the region of consciousness to which we have not attentive access. For the time being our thoughts are elsewhere as we say, and the brain reacts without reflecting on the consequence of the deed.

Another important aspect of the subconscious is the evidence it affords of the existence of a vast amount of stored-up energy in our organism that is ordinarily not tapped, but that lies there ready to be drawn upon in case of need. The simplest illustration of this potential capacity of the mind is what is called "warming up to the job." We start a piece of literary composition or other task perhaps in a half-hearted manner. We have other interests which seem at the moment more attractive. But

once having made the effort the second page comes easier than the first and by the time the sixth or seventh page is finished the pen is almost passing over the paper of its own accord. We have evidently reached a new level of energy masked at first by a "fatigue-obstacle" as William James would call it. We have all undergone the experience of forcing ourselves to do something uncongenial, and remember the feeling of satisfaction that occurs after the duty is completed. "I am very glad I made up my mind to do it," we say.

There is nothing more important to health of both mind and body than our possession of the unimpaired capacity to perform acts in themselves perhaps unattractive but important as serving a future end.

In ordinary circumstances the part of consciousness to which we have direct access is not of great extent. But we are provided with the kind of mental iris-diaphragm which under given conditions contracts or expands, increasing or decreasing the intellectual outlook accordingly. Bacon puts it quite clearly when he says :

"He that cannot contract the sight of his mind as well as disperse and dilate it wanteth a great faculty."

Fear, that primitive instinct that we have inherited from our sub-human ancestors, would appear to operate mainly in the unconscious region of our mind. Darwin states that earth-worms are conscious of fear and dart into their burrows like rabbits when alarmed. "Without fear no organism could survive, for no organism could relate itself to the hostile forces of its environment." But morbid fears should have no place in

our mental economy. Fear of disease, fear of poverty can become manias if they are not checked and the thoughts given a more healthy direction. On the other hand "a healthy fear of indigence," says a well-known writer on this subject, "will lead to prudence, industry and thrift."

The chief lesson to be learned from all this is that while fear is a provision of Nature to ensure the continuation of the species, once it has ceased to be under the control of the will, once it has escaped the inhibitory power that we call the strength to choose our line of action—it is a menace to health: and as such must be combated with all the means at our disposal.

There is no doubt that in the ordinary course of life the greater tracts of our subconscious selves lie fallow. We pass too easy or too simple an existence in general for us to make any serious demand on our latent powers. Those who start to learn a new language or to acquire a new art, as for instance a musical instrument, late in life are often surprised at the progress made. Perhaps a dormant gift whose existence had never been even guessed at was awaiting an opportunity to be exercised.

In conclusion one may say that habit is essentially the cultivation of the subconscious. Once a path of nervous discharge has been made the whole of the operation in habitual action is carried out by a faculty that acts without in any way disturbing the attention. In fact the greater the number of processes in our daily life we delegate to habit the greater the scope of our attention to fresh tasks.

PART II

DISORDERS OF THE SUBCONSCIOUS

It has been justly declared that a wholesome existence depends on a sound memory and a vigorous will. Should either of these be impaired sickness of some kind must result. The most extreme cases of a disordered subconsciousness are those of disrupted personality.

It is possible for the sum total of consciousness to be subdivided into parts, co-existent, but mutually ignorant of each other's being. Luckily extreme cases of this kind are of rare occurrence, although there is a latent tendency among many persons to show the existence of more than one side to their character. The only safeguard against dissociation of personality is the binding force of a great altruistic spiritual principle.

It would be uninteresting and purposeless to recite in these pages a list of the phobias and obsessions to which the human mind is liable and all of which arise through unconsciously drinking in some morbid idea. Nor would it be more profitable to discuss in detail the disharmony of muscular activity that may result from the same cause.

Irregularity of life, lack of interests, shock or even physical injury may be accountable for the freakish exploits that many individuals indulge in.

Orderly thought and controlled emotion are the obvious antidotes to such behaviour. Methods of psychic re-education as it is termed will be dealt with in Part IV of this chapter under Suggestion.

In the phenomena of automatic writing we have an excellent example of subconscious abnormality.

The hand produces extraordinary pictures, words or sentences, sometimes bits of information written in an unknown tongue, and the whole bearing apparently no relation to the co-existing ideas in the mind of the subject. These instances provide specimens of double-mindedness analogous to the Jekyll and Hyde mystery. Part of the stream of consciousness has split off and mechanically reproduces forgotten or long-lost knowledge.

Cases of temporary loss of memory that one sees so often mentioned in the daily Press are but further instances of dissociation of ideas. By suitable treatment the mind can be restored to its normal state. Nearly all the symptoms of neurasthenia would make it appear that this trouble is mainly subconscious, probably originating in physical exhaustion. As it has been explained in other chapters the brain cannot work unless it is supplied with healthy blood. If the fluids in the arteries are impoverished for any reason, thought suffers and may easily become incoherent.

The operation of thought without the direct control of the will has been in the past in scientific works referred to as *unconscious cerebration*. But strictly speaking the term *subconscious* is more exact than *unconscious* because there always exists *some degree of consciousness*, however slight it may be, in all the phenomena we have examined. Even forgotten dreams can be brought up to the surface of our attention as a result of a sudden linking up of ideas.

Even talking or walking about in sleep are not properly *unconscious acts*. Some phase of consciousness is aroused, and it is quite conceivable that it

might be possible to correlate it with other phases. Dreams in any case have an important bearing on mental health, as we shall find.

Professor Bergson in his Gifford lectures in 1914 gave his theory of the disorders of personality in the following terms :

“It had been shown that the two essential aspects of human personality were, first, Memory, taking in the whole scope of the unconscious past ; and, secondly, Will, continually straining towards the future. But it was only by an effort that humanity in general had been able to acquire these two functions, and that the individual was able to exercise them. That effort we did not notice because it was constant, but it was none the less a strain. To be a human being was in itself a strain. It was indeed a strain which some were unable to bear. Hence the disorders of personality. These might be divided into two classes according as they concerned either of the two essential aspects of the person, Memory or Will. In a general way disorders of the former class seemed to show that we constantly put forth a special effort and undergo a special strain in watching with our consciousness the whole of our unconscious past in order to select in it what we might require. This effort of vigilance might in certain cases become impossible. In that event, rather than abandon it entirely, consciousness will limit its effort to one part of the unconsciously remembered, closing its eyes, as it were, upon the rest. Many cases of amnesia were phenomena of this sort. We must in fact draw a distinction between those forms of amnesia which relate to impersonal recollections, such as recollections of words or music, &c., and those which affect personal recollections. It was the latter kind of amnesia which constituted derangements of personality, and they were totally different from the others. In particular it was in this way that we must interpret most cases of multiple personality. In the so-called cases of a splitting up of the self there was really a single self which from time to time resigned itself to watching only one part of its unconscious past.”

The whole of this question of the operations of the subconscious both in its normal and abnormal states is one of absorbing interest, but it is not possible to carry the discussion further in these pages. A remarkable account of the synthesis of a personality was published by Dr. Prince (Longmans, Green & Co., 1906).

PART III

PSYCHO-ANALYSIS and DREAMS

Our mental life consists of reverie and thought, Directed thinking, when one idea succeeds another in the mind as the result of a definite effort of will, only occupies a small part of our time. We tire of it. During the greater part of the time therefore we are only dimly conscious of a sense of dream pictures flitting airily across the range of our mental vision.

The direction that such nebulous ideas take is more or less governed by the subconscious.

The images only rise up into the focus of attention when they become momentary, definitely either agreeable or unpleasant. Thus the dreams of sleep and the visions of our waking hours are of much the same kind. There is neither the space here nor the need to go deeply into the scientific aspects of dream psychology.

The reader is asked to accept the following facts as established.

1. The experiences of dreams have a symbolic rather than a literal meaning.

2. Desires that exist only subconsciously can make their appearance symbolically in sleep.

A scientific observer gives the following account of a dream showing how ideas "unacceptable to the personality in waking life may manifest themselves in sleep."

"A colleague who occupies a post senior to me upon the staff of —— institution recently applied for an appointment at another institution. His success would have meant my promotion, but he happened to be one of my greatest friends, and I should certainly resent the suggestion that his departure could occasion me anything but genuine sorrow. Nevertheless I dreamt this dream: He and I were endeavouring to write in an inconceivably small room. The space was so cramped that the movements of one constantly interfered with those of the other. A quarrel resulted, and I had the satisfaction of finally pushing my colleague and friend outside the door."

Another authority, Dr. Freud, endorses the theory underlying this view.

"Sometimes, it is true, the manifest content of a dream shows without distortion, the fulfilment of a wish of which the dreamer is entirely conscious: more often also such a conscious wish is discovered in the latent content on analysis; in every case, however, as appears on fuller analysis these conscious wishes are associated with and merely reinforce deeper unconscious ones, which are the fundamental motives to the dream activity. Thus no wish is capable of producing a dream which is not unconscious or associated with another wish which is unconscious. Only such desires remain in our consciousness as are acceptable to consciousness. Certain desires cannot possibly be gratified because they meet with actual external hindrances. Others cannot be gratified because their gratification would be incompatible with our duty—or obligation towards others. In either instance, there is a conflict between the selfish individual impulse and objective circumstances—environment—the case being the same whether the hindrance to gratification is physical, lying in an actual impediment, or moral, arising from the indivi-

dual's regard for law, morality, custom or the opinion of others. Such desires, since they are incapable of being expressed in activity, calculated to secure gratification, are not worth retention in consciousness. They are, moreover, inevitably unpleasurable—painful to the individual, and because painful, they are, by a defensive process, repressed. These desires, however, are still proper to the individual: they are not removed, but only transferred to unconsciousness, and there remain operative—that is, they are still capable of starting various mental processes. One of these processes is that of dreams. Our unconscious wishes—those which are impracticable or which are painful, shameful or otherwise intolerable, and thus, driven from our conscious waking minds, are fulfilled for us in sleep. And biologically considered the function of dreams is this—that they satisfy and allay mental activities which otherwise would disturb sleep. By affording a necessary expression or discharge they secure mental repose. The dream is thus the guardian of sleep. The function of daydreams and hallucinations is doubtless the same—to relieve the over-burdened mind and secure a comfort not to be found in the presence of reality.”

It is well to remember here that there is an established relation between our ideas. This is as true of the subconscious as of the conscious mind. I am hardly aware that I associate the colour red with tomato for instance. So that what actually happens when we lose the thread of our ideas is that one thread has dropped and hangs apart from the main strand. It is separate but unbroken. We shall be able to pick it up again in due course. This unconscious part of the ratiocination will not be interrupted but will go on. Thus awake or sleeping we may appear to jump to a conclusion, but it is not really so.

The process of psycho-analysis is not confined to dream interpretation. It is of value in bringing to

light hidden recollections that are needed to enable a patient to get rid of an obsession for instance.

A single illustration will suffice. A patient under mental strain suddenly develops a mental dislike of being shut in a room (claustrophobia). He sits in his chamber or his office with the door wide open. A visitor closes it on leaving and the patient goes cold all over with fright and rushes to open it again. The medical attendant in the case puts the patient at his ease and by virtue of a series of scientifically planned questions succeeds in arousing past experiences and forgotten incidents in the patient's life. It is eventually discovered that the sufferer was locked in a dark room by a bad-tempered nurse when he was a youngster. The effect of the shock remains and comes to light when he is run down. But the incident had been forgotten. If the case is suitable the mere bringing back to the patient's attention of the explanation of his fear serves to banish it from his mind. Once it has been shown in its true colours its power over him vanishes. It has been truly and wittily said that "psychoanalysis professes to drag the skeleton from the cupboard into the light of day. The bogey stripped of its sheet and candle becomes a turnip on a stick."

PART IV

SUGGESTION

Suggestion has been defined as the "alogical production of conviction." The psychological principle involved is termed *dissociation*, the concentration of the attention on some particular object to the absolute exclusion of all else. This state of

mind is easily induced in the case of the child or untaught adult, as they have little knowledge and such as they have is but loosely put together : “not forming part of a logically coherent system whose parts reciprocally support one another.” But in either case, irrespective of age or education, it has been found that the subconscious is particularly susceptible to suggestion from without. Once the attention has been drawn away from its guardianship of the mind any hints, however illogical, would appear to be acted on. The most popular illustration of this is the case of a conjurer’s device of distracting the attention by some minor performance while he manipulates his chief piece of apparatus unperceived by the watching audience. While we are always to some extent open to attack by suggestion, we are particularly so when tired, in ill-health or entirely at our ease. And if we wish to absorb useful and reviving suggestions they should be offered to us in the latter circumstances.

The broader medical aspects of suggestive therapeutics have already been fully dealt with in this book, now we are more particularly concerned with the psychological aspects of its operation, and may take the occasion to refer to the practice of self-suggestion or auto-suggestion as it is sometimes rather clumsily termed. The following description taken from a work on Religion and Medicine by Dr. Worcester S. McComb explains the method usually recommended.

“Suppose you are a victim to mental sluggishness; you desire to read and study, to realize worthy ambitions, but when the time comes for work your brain refuses to act and thoughts will not come. What are you to do ?

“Choose a time when the brain is most suggestible and that is generally when you feel an inclination to sleep, then calmly formulate in your mind some such proposition as this: ‘I am organically sound: the nervous system is intact: the bodily organs are discharging their proper functions, therefore I ought to have a mind clear and alert, able to grasp ideas and to relate them logically: therefore such a mind can be mine. Henceforth I will think easily and correctly: study will be a delight and work a joy.’ Your trouble will yield to repeated suggestions of this order, which create, as it were, a psychic line of least resistance!”

This is a counsel of perfection indeed. Happy the man who can abolish sloth in such a manner. At the same time the underlying idea is psychologically sound.

An interesting point or two is made in the following lines taken from an article published in *The Times* a few years ago.

“We published a letter on Monday in which it was said that healthy minds are more open to suggestion than unhealthy, since the unhealthy are filled with their own fixed ideas. There is truth in this; but the healthy mind is less affected by a particular suggestion than the unhealthy just because it is so open to suggestion in general. It is the multitude of suggestions that makes them safe; they pour in upon us so constantly that we could not act upon them all if we would; and the great mass of them pass only into our subconsciousness and become the material out of which the conscious will make our characters. But the unhealthy mind is not thus open to the general stream of suggestions. It accepts only those which minister to its own fixed ideas; and of these its consciousness makes an immediate and perverse use, turning them into arguments in favour of those fixed ideas. It acts indeed like a fanatic who can see nothing in life except what is relevant to his own cause and for whom, therefore, experience only heightens his fanaticism.

“The real cure is to open the mind to all suggestion and so to make it aware that there is not one little relation between itself and the vast and diverse universe, but a million relations, in the multitude of which it can find health and peace and joy.”

The inexplicable chronic mental irritations that we class under the general head of worry are luckily for us particularly amenable to suggestive measures. The following instances are illuminating and interesting :

A railroad conductor consulted a physician. He had been discharged from the railroad on account of nervousness. On the physician's examination he was found to be physically sound. When asked what he was “fussing” over, he replied—“I suppose I have been worrying for fear some one getting on or off my train would get hurt.” When asked if anyone ever had been injured in this way, in connexion with any train he had charge of, he replied in the negative. He was told he must learn to dismiss worry from his mind, as he would stop any other habit, mental or physical, that detracted from his usefulness or happiness. He was given one hundred yellow-eyed beans, and was told to put one, every morning, in a little box in the corner of his bedroom, and then say : “Worry is in the bean and the bean is in the box.” He was not to forget where he left the worry, i.e. in the bean, any more than he would be expected to forget where he left his hat. He was to walk away with the feeling that the worry was not in his head, but out of it. Before the hundred beans were exhausted he was free from his nervousness or worry and had been restored to his place on the road. Another good way

to eliminate these habits from the mind is to have a regular place where they can be left. An old chair bottom in the corner of the room will serve the purpose. The person afflicted is to go to that place and deliberately deposit his worries there as he would boxes or bundles. This practice persisted in becomes a useful resource. The funny side to the procedure helps to solve the trouble.

In concluding this chapter the following instances, given by the Rev. Dr. Samuel McComb, are worthy of note and will serve to explain the psychology of hypnotic-suggestion or "psycho-therapeutics" to use the medical term.

"A good illustration of this process is afforded by the case of a gentleman who called upon me recently to get some advice as to the method of regaining his self-control. It appears that he had been reading Professor Percival Lowell's lectures on the condition of life in Mars, and he had been profoundly impressed by the fact that in that planet water is very scarce, and the inhabitants suffer from perpetual thirst. Then he argues, on the basis of this observation, that the Deity who could tolerate such conditions in Mars might regard with complacency the same state of affairs on this earth. Then he began half consciously to visualize the state of this earth when everybody would be suffering from thirst, and so the process of morbid brain activity went on until he became a nervous wreck. Had he realized just what he was doing the morbid process would have been nipped in the bud by a hearty laugh."

A woman read of leprosy in the Bible and that one or two Chinese lepers had been discovered in the United States. She immediately conceived a violent dread of leprosy, and also the idea that she and her children were exposed to it. She became afraid to touch almost every object, and spent most of her time in washing her hands, until she reflected that the soap might be infected, a thought that drove her to despair, as it seemed to destroy her last refuge. This case was cured by repeated suggestion.

During the recent crisis a prominent financier lost twenty pounds in weight although eating regularly, but with perhaps less zest than formerly. He was examined by his physician and pronounced sound. The week following he gained three pounds in weight, and afterwards improved rapidly. His was an instance of loss of weight due to depression. When told by his doctor that he was physically quite sound his depression was relieved and his digestion improved.

CHAPTER XV

MENS MEDICATRIX

WE are now in a position to consider carefully the influence of the higher centres in the healing of disease. For the moment, our object will be to learn something from a selection of typical instances taken from records which seem to be well authenticated. The larger deductions which it seems legitimate to make from these as well as from cases noted in earlier parts of the book will be left to the next chapter. At the outset, however, it may be useful to clear up one or two doubtful points.

I. Some Preliminary Observations

1. As has already been pointed out (p. 185), the nature of nerve impulse is still obscure. It can hardly be due to chemical changes. It bears even less resemblance to what we know of electricity. To call it "Molecular vibration" is only to try to explain one unknown factor by another. Fortunately, in relation to the purpose of this book the point is of little more than academic interest.

2. Much more important is the question whether the effects of the activity of the higher centres on bodily health should be regarded as wholly and necessarily subjective, or whether an objective force can reasonably be postulated. Now in one

sense, such action must, in so far as it is natural and not (in the Emersonian sense) supernatural, be held to be subjective. There is only one healing force known to medical science—the *vis medicatrix naturæ*. All that either the most progressive surgery or the most timid conservatism can hope to do is to control this *vis medicatrix*. And there seems to be no escape from the conclusion that the higher centres, whether or not informed by consciousness, can do no more.

3. But the "objective" possibility is not quite so easily disposed of. The point really at issue may perhaps best be illustrated by supposing the case of a patient in a state of not very satisfactory convalescence from typhoid fever at Rome who is possessed with the idea that he will rapidly improve if only he can be transported to a front room at the *Trois Couronnes* at Vevey, where he can look at the Lake of Geneva and the mountains of Savoy. Let us further suppose that the risk of the journey is taken with the happiest possible results. We then make the fullest allowance for the benefit afforded by air and sunlight and by the order and cleanliness of a well-appointed hotel. Something still remains to be ascribed to the contentment experienced by the convalescent when he sits at his window and enjoys his favourite view. Now, no one would maintain that there was some material emanation passing from the rocks and snow to the body of their admirer. Clearly, the salutary enjoyment derived from looking at them—from waking in the morning and knowing that they are to be seen, or will be seen when the morning clouds have lifted—all this is as purely subjective as anything can be.

If, however, we substitute for a view of Haute Savoie a strong human personality, we cannot feel quite so confident. The possibility that there may be a "something" which passes from A to B must be admitted. At any rate we are not likely to rely on *a priori* consideration; our desire will be rather to weigh such evidence as we have. And the evidence is conflicting.

(i) On the one hand:

(a) Every "outside" force yet postulated has failed to stand the test of adequate "control" experiments. (See pp. 105, 6.)

(b) The tendency has always been to pass from "objective" aids to reliance on "subjective" impressions, especially in the case of those who are the freest from the taint of charlatanism. Thus, Puysegur eventually drops his "magnetic fluid" and posits "Croyez et veuillez" in its place. Bertrand and Braid are "subjectivists" almost from the first. The modern psycho-therapist first obtains hypnosis without the aid of bright objects, then (for the most part) treats hypnosis (i.e., amnesic hypnosis) as little more than a curiosity, and gets his results by psycho-analysis or "persuasion" or re-education or direct suggestion. It does not, of course, follow that this tendency is in the right direction. It is fairly arguable that it is all wrong. But it is there, and we are bound to reckon with it.

(ii) On the other hand:

(a) Such cases as those cited on pp. 94, 97 of the cure of very young children, if we assume that they are authentic, are not easily explained on a "subjective" hypothesis. Some more recent cases of the same type would be extremely valuable.

(b) It seems to be equally difficult to explain the early successes of some noted "healers." Granted that it was through *la foi qui guérit* that Greatrakes cured all his later patients at the time at which Boyle betrayed so commendable an interest in his doings, yet how did he obtain his earliest successes? There does not seem to have been any popular belief in the efficacy of *stroking* until he created it.

Perhaps a really convincing theory will be propounded at no very distant date. For the present, it is hardly possible to do more than keep both contingencies in view as we proceed to examine such results as (whatever the exact rationale may have been) appear actually to have been achieved.

II. Cases in which Mental Influences have Cured or Benefited Bodily Disorders

(1) It is not proposed to say anything about the mere removal of pain. Relief of pain is a most beneficent and valuable branch of psycho-therapy; but it is so well recognized that it would serve no useful purpose to illustrate an action universally acknowledged and clearly understood. For examples of deliberately applied anæsthesia the reader is referred to pp. 201-7.

Nor does it seem necessary to emphasize the successful application of Suggestion (in the widest sense) to mental maladies. Instances in which "phobias" and "obsessions" and "stammers" have been treated with complete success are to be found in many recent textbooks. Some further reference to this important matter will be found in chap. XIV. Our immediate concern is with bodily imperfections.

(2) STRIKING EXAMPLES OF THE MORE
COMMONPLACE EFFECTS(i) *Painful Joints*CASE 66. LONG-STANDING DISABILITY REMOVED BY
SHOCK

This was a case which came under the notice of Sir Benjamin Brodie. The patient was a girl who for many years had been unable to walk any distance as a result of some morbid condition of the hip. Whether it was supposed to be tuberculous or not is not recorded. The girl was evidently of a highly neurotic type. She was immediately restored to health on being thrown with some force from the back of a donkey. The eminent surgeon who describes the case speaks of "hysterical neuralgia of the hip"; but it is not absolutely clear that anyone called it "hysterical" until the donkey intervened (LXXX, p. 287).

Another case of a somewhat similar type was described with commendable candour by the late Mr. Skey.

CASE 67. A PAINFUL KNEE WHICH YIELDED TO
(?) DETERMINATION

"Many years ago, when I was less familiar with hysteric affections, I attended the case of a young lady of nineteen (suffering from a painful affection of the knee) in conjunction with Mr. Stanley. We both deemed the disease to belong to the class of inflammation, and conjointly adopted the usual remedies so indiscriminately resorted to in all painful affections of the joints. Many weeks elapsed without improvement, and I remember that we discussed with some anxiety the probable issue in abscess, destruction of ligaments, absorption of cartilage, and ultimate amputation of the limb." The patient determined to attend her sister's wedding. Both surgeons expostulated in vain. At length, "I determined to give stability to the joint for the occasion and I strapped it up firmly with adhesive plaster. On the following day she told me that she had stood throughout the ceremony, had joined the party at

the breakfast, and had returned home without pain or discomfort in the joint. Within a week her recovery may be said to have been complete " (LVI, September 22, 1866).

If either of the above patients had gone to some "bonesetter" who happened to be in fashion at the time, the newspapers would probably have had plenty to say about the "blindness of orthodox surgery."

(ii) *Hysterical Anaesthesia*

This is an exceedingly common condition (see pp. 207, 8). The following is a recent case of a rapid cure by psycho-therapy effected by Dr. A. W. Gill.

CASE 68. HYSTERICAL ANÆTHESIA OF NEARLY A YEAR'S DURATION. RAPID RECOVERY

Pte. L. (30) was wounded in May, 1918. In March, 1919, there was complete anæsthesia of three fingers of the right hand. "An unhealed burn was present on the tip of the forefinger, together with the scar of a burn of the forefinger. . . . The anæsthesia was completely removed by teaching the patient to direct his attention to the affected area" (CXXII, vol. i, p. 179).

(iii) *Epilepsy*

It will be remembered that the French commissioners showed that the "crises" of the *Baquet* could be induced by a stimulus applied to the imagination of the patient. They also proved that they could be allayed by a like process. In the following case recorded by Dr. Sweetser, shock appears to have effected a permanent recovery in a condition of epilepsy.

CASE 69. EPILEPSY CURED BY MENTAL SHOCK

"A lady in the prime of life . . . was for four years afflicted with epilepsy, in a violent degree, the paroxysms returning three or four times a week, continuing for some

hours, and leaving the patient in a state of stupor. A variety of medicines had been tried in vain, and the case was considered hopeless, when on receiving a dreadful mental shock, by the circumstance of her daughter being accidentally burnt to death, the disease entirely and finally left her " (LXXIV, p. 28).

An interesting case of complete recovery from an epileptiform condition under suggestive treatment is described in considerable detail by Dr. Milne Bramwell (CXX, pp. 82-4). This is an excellent example of the kind of case in which the " faith which heals " seems to have played a very subordinate part. The patient " had had the fixed idea that a certain medical man could cure him, and, as soon as he left the hospital, had placed himself under his care, but, despite his faith, had received no benefit."

(iv) *Whooping Cough*

The many " old wives' remedies " now or formerly in use in various parts of the country (duly recorded in Brand's invaluable *Observations on Popular Antiquities*) in connexion with this malady doubtless owe their origin to the common experience that it frequently yields to " the unexpected " in any form. A Spartan parent is even said (LXXXI, May, 1873) on one occasion to have flogged whooping cough out of his offending offspring—apparently with success. He must at an earlier date have sojourned in Erewhon.

(v) *Digestive Troubles*

The following is a typical instance of the application of deliberate suggestion (apparently in the form of partial hypnosis) to disorders of digestion. It is described by Dr. Milne Bramwell.

CASE 70. DYSPEPSIA CURED BY SUGGESTION

"Mr. —, aged 32." His health had broken down owing to "overwork and underfeeding." He suffered from dyspepsia (with allied troubles), depression, lassitude, etc. "He gave up smoking, dieted himself strictly, tried change of air" and many other remedies "without benefit." Daily treatment by suggestion was begun in May, 1895. There was steady improvement and eventually complete recovery. "In December, 1902, Dr. Eric Pritchard . . . informed me that the patient was still in good health. . . . Later reports satisfactory" (CXX, p. 78).

(vi) "*Paralysis*" of *Various Kinds*

In the following case, noted by Dr. Moore, the beneficial result was only transitory.

CASE 71. TEMPORARY CURE OF PARALYSIS AGITANS THROUGH AGREEABLE EXCITEMENT

"An old man . . . had been long unable to walk. The child of a friend was admitted to see him, and so greatly delighted was he that he arose, walked across the room, filled a paper with small shells, gave it to the child, and then sat down as paralytic as before" (LXVIII, p. 310).

This tendency to relapse is frequently exemplified in psycho-therapy. A sympathetic and acute observer is quoted by Démangeon as saying, apropos of the operations of the once famous Madame de St. Amour :

"Nearly all the cures have been temporary. . . . I have seen a young lady walk straight at the command of Madame de St. Amour. I was told her ordinary walk was a limp, but not having myself seen this, I doubted the fact. The improvement did not last ; a week after she began to limp as much as ever. . . . It is precisely the relapse which has removed my suspicions, and has rendered still more inexplicable to me the mode of action of Mme de St. Amour's cures" (XXXV, p. 59).

The following instances, given by Dr. Aber-

crombie, are on the same lines. The nature of the "paralysis" is not stated in any case; nor are we told how far the recovery was permanent.

CASE 72. "PARALYSIS" CURED BY SHOCK

"A woman, who had been for many years paralytic, recovered the use of her limbs when she was very much terrified during a thunderstorm, and was making violent efforts to escape from a chamber in which she had been left alone. A man affected in the same manner, recovered as suddenly when his house was on fire; and another who had been ill for six years, recovered the use of his paralytic limbs during a violent paroxysm of anger" (LXXXII, p. 399).

The next case has often been cited. It relates to the early life of Sir Humphry Davy, when the great chemist had discovered and was experimenting with nitrous oxide. It is well described by Dr. Paris:

CASE 73. CURE OF "PARALYSIS" BY IMAGINATION

"Dr. Beddoes (at whose Institute at Clifton young Davy was then working), having inferred that the [prot] oxide [of nitrogen] must be a specific for palsy, a patient was selected for trial and placed under the care of Davy. Previously to administering the gas, Davy inserted a small thermometer under the tongue of the patient. . . . The paralytic man, wholly ignorant of the process to which he was to submit, but deeply impressed by Dr. Beddoes with the certainty of its success, no sooner felt the thermometer between his teeth than he concluded the talisman was in operation, and, in a burst of enthusiasm, declared that he already experienced the effects of its benign influence throughout his whole body. The opportunity was too tempting to be lost. Davy did nothing more, but desired his patient to return on the following day. The same ceremony was repeated; the same result followed; and at the end of a fortnight he was dismissed cured, no remedy of any kind except the thermometer having ever been used" (LXXXIII, p. 74).

Once more, it is a pity that we are not told whether or not the improvement remained.

A similar tribute is paid to the efficacy of the clinical thermometer as a therapeutic factor by Sir Thomas Clouston, who writes as follows :

“When the clinical thermometer came into use fifty years ago, I was making a large number of observations to ascertain how the temperature of the body was affected in various forms of insanity, and I had many amusing experiences of the supposed effects of the instrument. New delusions were sometimes suggested ; the pain from rheumatism was lessened ; imaginary electric shocks ceased ; limbs were straightened out that had been contracted ” (CXVII, January, 1913).

The following is a good example of a case of paralysis of the hand of several months' duration cured by psycho-therapy. It is described by Captain W. R. Reynell, R.A.M.C.

CASE 74. HYSTERICAL PARALYSIS OF HAND RAPIDLY CURED

Sergt. H. (23) suffered from inability to move any of the fingers of his left hand after an operation for the removal of a “ganglion.” When some months later he came under Capt. Reynell's care the paralysis was found to extend to the shoulder. “Treatment by explanation followed by vigorous persuasion and re-education was sufficient to restore the muscles of the shoulder and upper arm in about ten minutes, but there still remained a very slight degree of wrist-drop and the fingers and thumb could not be moved.” A fortnight later the paralysis had completely disappeared (CXXII, vol. i, p. 181).

Among Charcot's cases are many in which paralytic disability or deformity disappeared under the influence of emotional stress or nervous shock. Here is one :

CASE 75. "CONTRACTURE" VANISHING AS THE RESULT
OF SHOCK

"Contracture of the right lower extremity of four years' duration entirely disappeared on the day after the patient had been sternly admonished on account of her misconduct, and threatened with expulsion from the hospital" (LXXXIV, p. 291).

In another case hemiplegia of eighteen months' duration disappeared "almost suddenly" under similar circumstances.

These are closely paralleled by some of the Lourdes cases. The following account of one of these is taken verbatim from the official chronicle. No attempt has been made at this distance of time to verify the details. It would be extremely interesting if it were possible to ascertain the evidence on which the diagnosis of "chronic myelitis" was based.

CASE 76. LASTING CURE OF "PARALYSIS" AT LOURDES

"Mlle. C. E., in 1864, after exposure, experienced violent pain in the back, with altered sensation and paralysis of the lower extremities, and was afterwards generally paralysed. Admitted to hospital in 1869 as a case of "chronic myelitis," she was transferred to the Incurables in 1870 . . . but in 1873, the malady having progressed, she yet began to entertain fervent hope and confidence in Our Lady of Lourdes. Carried there, *presque mourante, ou plutôt déjà cadavrique (sic)* no sooner did her feet touch the water than she felt life return and pass to all the limbs; she felt no pain and threw herself on her knees in the bath. . . . The legs previously wasted were found well developed and strong. The patient returned home well and has remained so for five years" (LXXXIV, February 28, 1879).

A less remarkable but more recent case of a similar kind is the following :

CASE 77. PARALYSIS FROM INJURY INSTANTANEOUSLY
CURED AT LOURDES

"Anatole Desailly, a coal-miner, was seriously injured in April, 1898. When he arrived in Lourdes in August, 1899, he could scarcely drag himself along with the aid of crutches. He was being conveyed to the hospital in a little cart when he suddenly leapt out of the cart crying "Ça y est," and began to walk without crutches. A few days later he returned to his work as a coal-miner" (CXVIII, p. 252).

And here is a case of long-standing helplessness cured by the simplest means. It is related by Sir W. Osler.

CASE 78. RECOVERY FROM PARALYSIS, THE RESULT OF
ENVIRONMENT

For more than ten years a girl lay paralysed in a New Jersey town. A devoted mother and loving sisters had worn out lives in her service. She had never been out of bed unless when lifted by one of her physicians, Dr. Longstreth and Dr. Shippen. The new surroundings of a hospital, the positive assurance that she could get well with a few simple measures, sufficed, and within a fortnight she walked round the hospital square. This is a type of modern miracle that makes one appreciate how readily well-meaning people may be deceived as to the true nature of the cure effected at the shrine of a saint. Who could deny the miracle? And miracle it was, but not brought about by any supernatural means (CXIV, June 18, 1910).

(vii) *The Historic Bread Pill*

Many instances of the effective use of this simple remedy have been recorded. In one described by M. Lisle, a well-known French physician of the time, the cure seems to have been permanent (LXXXV, October 23, 1861).

(viii) *Asthma and Other Spasmodic Conditions*

It is not clear that permanent benefit has resulted

from the action of strong mental impressions in chronic asthma. The following, related by Dr. Moore, is a good example of at least a temporary recovery.

CASE 79. ASTHMA CURED BY MENTAL EXCITEMENT

"An officer in the Indian army was confined to his bed by asthma, and could only breathe in an erect posture; but a party of Mahrattas broke into the camp, and, fearing certain death, he sprang out with amazing activity, mounted his horse, and used his sword with great execution, though the day before he could not draw it from its scabbard" (LXVIII, p. 309).

Muscular spasms, however, have not infrequently been permanently cured. The next case is recorded by Dr. Bramwell.

CASE 80. SEVERE MUSCULAR SPASMS. GRADUAL BUT
COMPLETE CURE

A lady, æt. 26, had developed muscular spasms in arms and legs as the result of a severe mental shock. They were of an extreme character. "She could not walk without assistance, and was unable to dress or feed herself. Attacks frequently occurred during sleep and invariably woke her." She was readily amenable to hypnosis; but three weeks' treatment (hypnosis being maintained for variable periods) was required before a cure was effected. This was in 1900. In 1909 the patient stated that "her health was splendid and she had had no return of the spasms" (CXX, p. 81).

(ix) *Warts*

Here again the persistence of the belief in charms found in the folklore of many lands seems to forbid the conclusion that the disappearance of warts after the application of one charm or another is to be ascribed to mere coincidence. "For Warts," says Sir Thomas Browne, "we rub our Hands before

the Moon, and commit any maculated part to the touch of the Dead. Old Women were always famous for curing Warts; they were so in Lucian's time." Carpenter makes no wild assertion when he says that "the charming away of warts by spells of the most vulgar kind" belong to those "cases which are *real facts*, however they may be explained" (XII, p. 984). Brand quotes Grose as recommending larceny. "To cure warts steal a piece of beef from the butcher's shop and rub your warts with it . . . then bury it, and as the beef rots your warts will decay" (LXXXVI, p. 731). Probably the excitement of being stroked by the dead hand of Dr. Dodd or some other unfortunate or of filching meat when the butcher was looking the other way was as useful as the power of faith in the following case (related by Dr. Hack Tuke).

CASE 81. DISAPPEARANCE OF WARTS ACCORDING TO
DIRECTION

"A surgeon informs me that some years ago his daughter had about a dozen warts on her hand. They had been there about eighteen months, and her father had applied caustic and other remedies without success. One day a gentleman called, and in shaking hands with Miss C—— remarked upon her disfigured hand. He asked her how many she had; she replied she did not know, but thought about a dozen. 'Count them, will you?' said the caller, and taking out a piece of paper he solemnly took down her counting, remarking, 'You will not be troubled with your warts after next Sunday.' Now, it is a fact that by the day named, the warts had disappeared and did not return" (XXX, vol. ii, p. 209).

(x) *Sea-Sickness*

This is, of course, readily amenable to mental impressions. How far amelioration can go is well shown in the following instance.

CASE 82. SEA-SICKNESS ENTIRELY REMOVED BY
SUGGESTION

"Mrs. —, aged 19. Had good health, but the shortest voyage produced violent and even dangerous sea-sickness. Curative suggestions were given. During the following year the patient crossed the Channel several times without being sick. The treatment was then repeated, as she wished to go to India. During the voyage a cyclone was encountered, and she alone among the passengers remained well. The return journey was equally successful, and further voyages to and from India were also free from sickness (CXX, p. 93).

(xi) *Scurvy*

Epidemics of scurvy have frequently been influenced by a change in the emotional atmosphere. The next case is of interest as a reminder that—

"Not only we, the latest seed of time,
New men who, on the flying of a wheel,
Cry down the past,"

have recognized the power of imagination. Our narrator here is Dr. Frederic Van der Mys, and he wrote this in 1625.

CASE 83. DISAPPEARANCE OF SCURVY THROUGH
EXPECTATION

When Breda was about to capitulate, the Prince of Orange promised relief to the scurvy-stricken garrison and sent some medicines into the town. "Three small phials of medicine were given to each physician, not enough for the recovery of two patients. It was publicly given out that three or four drops were sufficient to impart a healing virtue to a gallon of liquor. We now displayed our wonder-working balsams; nor were even the commanders let into the secret of the cheat put upon the soldiers. They flocked in crowds about us. . . . Cheerfulness again appears in every countenance, and a faith prevails in the sovereign virtue of the remedy. . . . The effect of the delusion was astonishing; for many quickly and perfectly recovered . . . etc." (LXXXVII, p. 352).

(xii) *Amelioration by Auto-Suggestion*

The next cases are from the present writer's notebooks :

CASE 84. MARKED SUBJECTIVE IMPROVEMENT IN CASE OF AN ORGANIC LESION

"The first is of a man who, since the age of 16, has had a serious lesion of the heart. He was (I suppose rightly) advised to rest and exercise great caution. He did so, and became a confirmed invalid with a mental condition to match. As a lad he had been a keen and promising rider, and during his years of inactivity and confinement he never lost his love for horses. One day, when he was about 25, a friend urged him to come for a short ride every day. With the very qualified approval of his doctor, and against everyone else's advice, he did so, and in a few weeks he was a different being. The next winter he was hunting twice a week. At the present time he is to be seen riding every kind of horse except a 'screw,' for he is particular about everything except temper, and he will tell you (he takes an unkind delight in telling *me*) that he has 'not had a day's illness for fifteen years.' This is not strictly true. He suffers occasionally from terrible shortness of breath ; he often comes back after a day on a hard-mouthed, ungovernable brute blue in the face and quite exhausted, and he not infrequently experiences some of the digestive troubles which an abnormal circulation tends to produce. Still his life is a very different one from what it was fifteen years ago, and for this he has to thank a self-induced 'power of suggestion.' "

CASE 85. ADVANCED TUBERCULOSIS TEMPORARILY BENEFITED

"The second instance is almost more striking. A child of fourteen, in whom a friend of mine was taking an interest, was sent to me at my hospital for examination and report. She was said to be 'tuberculous.' I have seldom seen a more pitiable spectacle than she presented. She looked pale, wan, and utterly wretched. Her mother had hardly been able to induce her to walk the very short distance

which separated the station from the hospital door. On examination one lung was found to be extensively diseased, and the other to exhibit unmistakable signs. There was old-standing disease of one hip with corresponding wasting, etc., and in connexion with this were several 'sinuses,' of which two had apparently healed and one was discharging freely. My friend arranged for the child to be 'boarded out.' I heard good accounts of her progress, and in eight months' time the very capable matron of the home brought her up to see me. I do not think that I should have recognized the child. She walked in easily and naturally, looked almost healthy, smiled and talked readily, and professed to be perfectly well. On examination it appeared that the disease in the lungs had progressed steadily, and that the sinuses in the thighs, so far from having healed, were showing greater activity than before. The last was easily remedied; but I suppose I have never had a more uncomfortable quarter of an hour than when the kindly matron insistently wished to know 'if I did not think the child was much better!'"

(xiii) *Gout*

The following very remarkable case is related by Dr. Rush on the authority of his brother, a judge and presumably a person scrupulous in the acceptance of doubtful evidence. Nothing quite so complete seems to have been recorded in more recent times.

CASE 86. PERMANENT CURE OF SEVERE GOUT AS THE
RESULT OF FRIGHT

Put briefly, it amounts to this. An elderly man had had intermittent attacks of typical gout during a period of twelve years. In 1785 he was lying in bed with "feet, hands and elbows" "swollen and inflamed." Owing to careless driving the pole of a wagon entering the yard outside the house was driven through a window close to the patient's bed. He leapt out of bed in great alarm and "from that moment he has been *entirely exempt from the gout*, has never had the slightest touch of it, and now enjoys

perfect health (LXXXVIII, vol. ii, p. 180). It is very circumstantial and by no means impossible; but it would have been more convincing if we had definite medical evidence of the patient's condition immediately before and after the incident. The lasting nature of the cure it does not seem possible to question.

(xiv) *Recovery of Speech and Hearing*

The following case seems to bear out the truth of John Hunter's maxim that "what mind can cause, mind can cure."

CASE 87. SPEECH AND HEARING SUDDENLY RESTORED
THROUGH DISTRACTION

"During a performance before wounded soldiers at South Mead Military Hospital, Bristol, on Thursday, Mr. Wiltshire, a Western Circuit barrister, was giving a humorous sketch, which caused great laughter.

"A soldier who had been rendered deaf and dumb during the fighting in Flanders, joining in the merriment, suddenly regained speech and hearing" (CXV, March 27, 1915).

In the next case the cure was intentional.

CASE 88. RECOVERY OF SPEECH BY DELIBERATELY
INDUCED ALARM

"A mother's daring ruse to bring back the speech of her soldier son was the theme of a remarkable story told at Cardiff to-day. Corporal Tucker, the man concerned, was in the fighting line at Ypres when he was struck dumb and for weeks after leaving the trenches he was unable to speak a word.

"'At Ypres,' says Tucker, in telling his story, 'I got buried alive by three coal-boxes. Fortunately some chaps dug me out soon, but my nerves were completely shaken and I could not speak a word. I was sent to England and on December 1 met my wife, but was unable to greet her with a single word. I had not seen my mother for a long time, so last Saturday I went up to London to pay her a visit. Naturally, she was very much upset, as I was not

able to speak. On Tuesday night I came home from a picture palace, and sat alone in the kitchen downstairs. I was thinking of my hard luck when I heard my mother scream. Then came a thud as of some one falling down the stairs. I got up, rushed to the foot of the stairs, and stumbled over my mother, who lay groaning badly. What I said or did I don't know, but I fancied I called out "Oh, mother!" then I swooned. When I recovered I found my mother standing in front of me. In the morning I learned that my mother did not slip down the stairs, but had deliberately thrown herself down in order to give me a shock. In doing so she bruised herself, but might easily have met with serious injury, as the stairs are very dangerous. My nerves are not yet right, but when they are I hope to get back to the front to do my duty'" (CXVI, October 20, 1914).

Many other conditions might be enumerated, and instances given; but the above will probably be thought to illustrate with sufficient clearness the potential therapeutic action of the mind along lines with which everyone is now familiar. In what follows there is nothing which does violence even to the probability which we recognize as "the guide of life." But the cases are decidedly of a more unusual type.

(3) EXAMPLES OF EFFECTS OF MIND LESS COMMONLY ENCOUNTERED

(A) *Resistance to Hydrophobia*

It is not possible to assert positively that the patient (the late Mr. Andrew Crosse) in the next case was infected with rabies. But there is no doubt that he was bitten by a cat and that the cat died in a hydrophobic condition. It seems to be quite reasonable to suppose that a similar effort of will has carried many persons through the convulsions of tetanus who would have succumbed if they had

been of a more pliant disposition. Mr. Crosse's own version is given here :

CASE 89. RECOVERY FROM HYDROPHOBIA BY AN EFFORT OF WILL

The early symptoms (described at some length) were typical. "The pain, which had commenced in my hand, passed up to the elbow, and from thence to the shoulder, threatening to extend. I felt all human aid was useless, and I believed that I must die. . . . If there is any hope of my life; my only chance is in summoning my utmost resolution, defying the attack, and exerting every effort of my mind. . . . I walked the whole afternoon, exerting at every step a strong mental effort against the disease. When I returned to the house I was decidedly better; I was able to eat some dinner, and drink water as usual. The next morning the aching pain had gone down to my elbow . . . and the third day left me altogether. I mentioned the circumstance to Dr. Kinglake, and he said he certainly considered that I had had an attack of hydrophobia" (LXXXIX, p. 125).

Mr. Crosse had, in fact "demonstrated against" the "false claim" which threatened to overpower him, and he had his reward.

(B) *Deformity*

The following case (which might be paralleled by many similar cases) is to be noted in that it exactly resembles a large number of the conditions alleged (probably, correctly) to have been cured at many centres of miraculous healing. Details are given by Mr. Skey, no mean authority.

CASE 90. INVERSION OF FOOT CURED THROUGH AN EFFORT OF WILL

The left foot was "twisted at right angles with the other." The patient (a girl of 15) had worn splints for about a year, but they had not had the desired effect.

One day, the patient "accompanied her family to a ball, her foot, as she entered the ball-room, being not yet restored to its normal position. . . . To the astonishment of her family she danced the whole evening, having almost suddenly recovered the healthy muscular action of the limb. She came to see me two days afterwards. She walked perfectly into my room, and paced the room backwards and forwards with great delight. The actions of the limb were thoroughly restored, and all trace of the previous malady had disappeared" (LVI, Oct. 13, 1866).

Now in such a case as the above the diagnosis would probably be a matter of no great difficulty. Complete absence of wasting (other than disuse atrophy) in the muscles of the limb, together with the other easily ascertainable signs which have been tabulated by Dr. Savile and other authorities, would before long convince the competent observer that he was dealing with an "hysterical" joint. But having convinced himself of this the surgeon would not be much nearer effecting a cure. The choice of measures, all recommended with due weight of authority, from the most "materialistic" school with its course of rest, diet, internal antiseptics, etc., to the advocates of re-education, would be so wide as to be positively bewildering. The most recent Freudian treatment—viz., to get the patient to adopt an "objective" rather than "subjective" view of the condition—in plain language, to recognize that the trouble is "imaginary," at any rate amenable to a strong effort of the patient's will—is hardly to be recommended. In a few cases, no doubt, there will be a gratifying response. It would be foolish entirely to ignore the confident testimony of experienced men who claim to have treated case after case of hysteria in this way with hardly a failure (e.g.,

CXXII, Sept., 1918). But in general the man who adopts the line pursued by the rugged old Scotch physician in *Hard Cash* will do more harm than good. In dealing with the "neurasthenic" (in the Freudian sense), it is only to a limited extent that honesty can be said to be the best policy. This haunting difficulty will be considered in Chapter XVI (pp. 309-11). But at least we need not deviate by a yard from a course of the strictest honesty in acknowledging the possibility of the cure of long-standing disability (whatever the exact nature may have been) by a popular quack or a healing pool or a "higher-thought therapist" or the "cocksureness" of the operator or the patient's own determination to be well.

A good "war-case," out of the multitude which have been recorded, is the following :

CASE 91. HYSTERICAL FOOT-DROP, ETC. RAPID
RECOVERY WITH PERSUASION

"L.-Cpl. F——, aged 23, was wounded by shrapnel in the outer side of the thigh in May, 1917. In August he began to get about on crutches, but always held his foot down and his leg turned inwards." A spring had been attached to his boot to keep his foot up "and he could only get about with difficulty with the aid of sticks. . . . With simple persuasion and very little re-education he was able to walk quite well. At the end of four days . . . he walked quite normally except for a slight tendency to allow his knee to turn inwards. With this exception he is now quite fit" (CXXII, vol. i, No. 2, p. 69).

(C) *Cholera*

The power of the will is well illustrated in the next case taken from the *Life* of Edward Irving. It will be remembered that one of the tenets of the famous preacher was that disease and sin are identical, and that strength will be given to the faithful to resist

one as readily as the other. The occurrence took place during the cholera epidemic of 1832; and the "resistance" offered by this determined man is almost as remarkable if the malady was simple enteritis as it would have been if he was in the grip of true Asiatic cholera.

CASE 92. SUCCESSFUL TREATMENT OF (?) CHOLERA BY
STOUT DETERMINATION

The attack seems to have come on with the customary suddenness and violence on a Sunday morning. Symptoms followed the usual course. "He lay on the bed wrapped in blankets till he had to set out to preach at half-past eleven." Brandy and arrowroot were ineffective. "With sunken eyes, pallid cheeks, and an altogether ghastly appearance, he tottered to the Church a quarter of a mile distant, and found another minister officiating for him." This only confirmed his resolution. He sent word that he would preach, and rested in the vestry till the last possible moment. Here (in his own words) "even as I shifted my position I endured much suffering, and was almost involuntarily impelled to draw up my limbs in order to keep the pain under." When he had to go into the pulpit, "his sight was dim, his head swam, he breathed with difficulty, he laid hold of the pulpit sides and looked wistfully about, wondering what would befall him. The crisis came" apparently in the form of a cold sweat with great attendant weakness. However, he preached with greater fervour than usual for more than an hour and again in the evening. Next morning he was weak but otherwise well on the way to complete recovery (XC, vol. ii, pp. 309-13).

(D) *Cases of Successful "Tractorism"*

The literature on this once famous subject is immense. The great exponent of "pseudo-tractorism" was Dr. Haygarth. This eminent physician undertook to perform with tractors of any substance

feats as remarkable as were credited to the metallic tractors of Perkins. In fact he stood in the same relationship to Perkins as Braid to Reichenbach. He appears to have been as good as his word. The following case is typical. We are not told if the improvement was lasting.

CASE 93. CHRONIC RHEUMATISM GREATLY BENEFITED
BY "PSEUDO-TRACTION"

Thomas Ellis, a negro, from chronic rheumatism in his upper and lower extremities, had been incapable of walking without support or feeding himself for four months. He came under my care on the 19th of April. At first the tractors produced no effect upon his thighs, and but little upon his arms. In the course of a few applications, however, he began to move his limbs better. . . . He now began to mend so fast that he could comb his hair very readily, and on the 29th he put on his jacket and walked across the ward without the least assistance. In the course of this case the nails, lead and wood were used alternately, but there did not appear to be the least difference in the result" (XCI, p. 327).

At a later date "tractorism" was revived by Mr. J. Vine Hall. He records several interesting results. For instance :

CASE 94. CONTRACTION OF HAND CURED BY USE OF
TRACTORS

"Mr. W. R., of Maidstone, had long been afflicted with severe attacks of gout, which frequently disabled him in his hands and feet. About four months ago his hand became so much contracted that he had not been able to close it to the present time, and the attempt to do so occasioned severe pain in the back of the hand, the skin being tense and hard." At first there was no obvious result. Wooden tractors were used. Then, "I continued drawing the tractors over those parts where the pain was greatest, varying the application from the back of the knuckles to the end of the fingers. The skin on the back of the hand

at length became soft, and in twenty minutes he could open and shut his hand firmly without producing the least pain, except on the knuckles of the first finger. I then applied the tractors a few minutes to this part and the pain entirely subsided" (XCII, p. 154).

Many similar instances are described. Was this simply an effect of "imagination," or does "stroking" set up an afferent impulse which, quite apart from the mechanism of massage, has an efficacy of its own?

(E) *Corneal Opacities Resolved by "Mesmerism"*

The next cases are of a striking character, because in both the extent of opacity appears to have been considerable. It is much to be regretted that no more recent examples are procurable. The first is given by Deleuze.

CASE 95. CORNEAL OPACITY ABSORBED UNDER HYPNOTIC TREATMENT

"Opacities in the cornea of the eye have been frequently made to disappear. . . . Dr. Geritz was consulted about a girl, eight or nine years of age, who . . . had one eye entirely covered with a film so thick that she could not see the light. He judged . . . that the disease was incurable by ordinary means . . . but the child having inspired him with much interest he resolved to undertake her treatment with magnetism. During two months the action appeared absolutely powerless; the third month the film grew thinner and in the succeeding one the cure was complete" (XCIII, p. 146).

Most ophthalmologists will probably feel that they want fuller details before pronouncing an opinion on such a case. At any rate, it would be of much less importance if it stood alone. But there are instances of a similar kind recorded by Braid—as sane and competent an observer as anyone could wish to find. Thus:

CASE 96. CORNEAL OPACITY OF THREE YEARS' DURATION
RESOLVED BY HYPNOTISM

A Mrs. S. had had an opacity covering "more than one half of the cornea" of one eye for more than three years. She was treated by Braid for "violent pain in the arm and shoulder" for some weeks. Braid was greatly surprised to notice that her sight began to improve. "The operation was continued daily, and in a very short time the cornea became so transparent that it required close inspection to observe any remains of the opacity." Sight in one-half of the eye remained imperfect on account of the retinal condition; but so far as the cornea was concerned, the cure was permanent (XCIV, p. 175).

(F) *Blindness of Nervous Origin*

These cases are of great importance, inasmuch as they emphasize the absolute necessity of arriving at a skilled diagnosis of the preceding condition in all cases of blindness reported as cured through spiritual or similar influence. They are not uncommon. The following case is a good example of a recovery, which, if it had happened at Lourdes, could not be called (in the Bensonian sense) "miraculous."

CASE 97. BLINDNESS FROM MUSCULAR PARALYSIS CURED
BY HYPNOTISM

This is described by Braid with his usual careful attention to detail. Put more shortly—Miss R. was totally blind (except that there was perception of light) as a result of paralysis of the muscles of accommodation of the eye. At Dublin under the care of Mr. (afterwards Sir Wm.) Wilde (the eccentric father of a still more lamentably eccentric son) she improved in six months to this extent, that the iris became slightly sensitive to light and large objects could be distinguished. That, however, was all. She then put herself under Braid. He tested the eyes and found nothing wrong with the refractive media, except the condition of the iris. "Having hypnotized the patient

I directed the nervous force to the eyes, by wafting over them and gently touching them occasionally so as to keep up a sustained act of attention of the patient's mind to her eyes and the function of vision. She was aroused in about ten minutes." What followed is given in great detail. Smaller and smaller letters were read. At the end of the second "treatment" the patient could read the whole of a title-page of a pamphlet—and so on. She was hypnotized on two subsequent occasions, "after which she left me, quite cured, and, as I have heard, she has continued well ever since" (XCV, p. 36).

The next case is, as the narrator Captain A. Robin, R.A.M.C.) states, "not without a certain significance."

CASE 98. HYSTERICAL BLINDNESS OF FOUR-AND-A-HALF
YEARS' DURATION CURED BY PSYCHO-THERAPY IN
TWENTY-FOUR HOURS

"Pensioner B. had been blinded . . . in 1914 by shell explosion. The loss of sight . . . though of over four years' duration was hysterical, and had been followed by a change in both his appearance and mentality. He was completely cured by psycho-therapy . . . in twenty-four hours. On the following day, on meeting his wife, who had come to see him, he called out, 'I can see! I can see!' It is not surprising that he showed considerable disappointment at his wife's reply, 'What about your pension?' and the incident is not without a certain significance" (CXXII, vol. i, p. 224).

(G) *Apoplexy*

There is a fair number of cases in which, apparently by strong mental impressions, symptoms rapidly cleared up. It is to be supposed that absorption of the blood clot was stimulated. Liability to recurrence was probably not affected (for it is nowhere stated that a diminution of arterial tension was observed); and it is not suggested that the

shattered walls of the vessel were repaired. The following is one of Braid's cases. Those who like to play with terms may be glad to note that it is an instance of an (undoubtedly) "organic condition" which may be said to have been "cured" (up to a point) by "mental means alone." Some of the copious detail which make Braid's records such fascinating reading to the professional man, but must be tedious to the general reader, is omitted.

CASE 99. RAPID ABSORPTION OF BLOOD CLOT UNDER
HYPNOSIS

"A gentleman, *æt.* 60, had a paralytic stroke two years and a half before consulting me, which deprived him entirely of the use of the right arm and enfeebled the right side and leg. . . . The pupil of the right eye was considerably larger than the left and not quite circular ; speech very imperfect. After being hypnotized for five minutes he was able to open and close the hand freely and perform various other actions. Seven weeks later, he could speak and walk much better, could raise the arm and move the fingers and hand freely, could pass the hand above and over the head, and take off his hat with it. The right pupil was also quite circular now, and nearly the same size as the other" (XCIV, p. 215).

It will not have escaped observation that in the cases last quoted, hypnosis (in the older sense) was induced, though it is worth noting that Braid does not seem always to have applied the test of subsequent amnesia. Modern psycho-therapy, as has been pointed out (p. 276), has been led by long experience to regard true hypnosis as a somewhat cumbersome method of reaching results which (except in a few exceptional conditions) can be more readily attained in other ways.

It may be well to close this chapter with the

records of two cases of "*spontaneous*" recovery from cancer. A fair number of these has now been collected. The following are related by Sir A. P. Gould.

CASE 100. "SPONTANEOUS RECOVERY" FROM CANCER

"A woman, aged 52, was admitted to my cancer ward of the Middlesex Hospital on February 28, 1906, suffering from advanced cancer of the uterus. . . . She became slowly but steadily worse, and for many months was unable to leave her bed, owing to frequent hæmorrhages and the consequent weakness, and the pain which movement increased. In the early summer of 1908 she gradually lost the use of her lower limbs, until she was literally unable to move hand or foot. . . . During the late summer she improved, and when I returned from my holiday at the end of September, 1908, I found that she could just move her hands a little; she was also stronger, with less pain and less discharge. . . . Not to weary you with details, the patient got quite well, all the local evidences of the disease vanished, and I made this note in July, 1909. . . . The original disease has entirely disappeared.

"After keeping her for several months to make sure of her recovery we had to discharge her from our Cancer Charity as she no longer filled the necessary condition of suffering from cancer, and she now earns her living by needlework. No treatment specially directed to the cure of the disease was employed in this case. . . .

CASE 101. IDEM

"A man, aged forty-four, was sent to me from another hospital as an incurable case in December, 1903. . . . He was treated with X-rays. Thirteen months later—January, 1905—the following note was made: 'Good general health, doing all his work (as a postman); no sign of disease.' At the end of 1905 there was a slight recurrence of trouble dealt with by an operation. The wound healed well, and he has had no further trouble. He continues his work as a postman, and enjoys good health" (CXVIII, p. 198).

CHAPTER XVI

RESPICE. PROSPICE

IT will not have been forgotten that one discerning critic of Bailly's famous report complained that those who were responsible for its findings seemed to think that the science of medicine and the science of healing had no necessary connexion one with the other. After the lapse of a century and a half, the complaint would not be altogether without warrant or reason in our own day. A tendency of so marked and lasting a character must be the result of causes which need not, perhaps, be as absolute as they have shown themselves to be, but must be weighed and recognized before they can be controlled. Let us try in some measure to understand them.

I. Mr. Stephen Paget has reminded us that in all medical controversies, more especially over first principles, a rather important "intervening party"—to wit, the patient—is apt to be forgotten (XX, p. 70). A very large amount of the age-long bickering between groups and "schools" and cults and individual teachers is due to the fact that this troublesome and intrusive person declines to be ignored.

(1) The patient, at any rate, has in view a clear and well-defined object of which he never loses sight. He wants to get well and to keep well. He does not concern himself greatly about the methods employed

for attaining this result, and not at all about their reputation. He would at once give his vote for the inexperienced fighter, who "was winning the battle in the wrong way," in preference to the higher command which "was losing it in the right way."

(2) Face to face with his patient, the doctor wants the same thing, desiring it not only for his patient's sake but for his own. And it may so happen that his strenuous training, according to an exceedingly well-devised curriculum, in the prevention and treatment of morbid conditions, the knowledge which he has acquired and to some extent retained in the earlier years of study, added to the work done in the museum and laboratory as well as in the wards and by his own fireside—that all this (modified or extended by subsequent practice) will exactly meet the needs of the case before him. It is a child, let us suppose, suffering from a sharp attack of bronchopneumonia. The diagnosis is clear. Complications are rapidly excluded. The pathological condition is accurately visualized. The strain thrown on vital systems other than the respiratory is skillfully appraised. The measures which he adopts are in accordance with the results of his examination and the patient's circumstances. Everything is directed to the furtherance of recovery. If this, unfortunately, should not occur the unfavourable issue will certainly not be due to any pedantry or hide-bound prejudice on the part of the practitioner.

But let us further suppose that his next case is a man in middle life who is worried by incessant lumbago. Our painstaking friend, convinced that in all true "fibrositis" nodules (of whatever composition) are always present, palpates, but can "find

nothing definite." However, the symptoms are straightforward enough, and, as there is visible contraction of muscle on the right side, it is clear that he is dealing with a more or less acute condition. Everything proceeds on thoroughly up-to-date lines. Care is bestowed on the teeth. Diet and exercise are carefully regulated. A masseur who may be trusted not to do more harm than good by unwise pummelling is called in. A drug or two may be "exhibited." Nothing very much resulting from all this, he becomes a little more empirical. A month at Bath or Harrogate is prescribed. A course of light treatment is recommended. Possibly the suggestion of radium will be offered. Finally the aid of psycho-therapy is invoked. At the end of it all (the patient being no better; "evidently a very obstinate case"), war is declared. The patient goes to France. Diet, scrupulous attention to teeth, graduated exercises—all this goes by the board. He is subject to violent alternations of heat and cold. He frequently sleeps in damp clothes. In short, he does most of the things which a fibrositic patient ought not to do. Gradually the fibrositis decreases, and finally leaves him altogether.

Now it may be asserted without any fear of a charge of bias or exaggeration that our well-instructed and conscientious medical friend would probably under such circumstances, unless he were of an altogether exceptional type, murmur to himself that "there must have been a considerable element of neurosis in the case," dismiss the whole experience from his mind, and then resume his perusal of the fascinating article in the current *Speculum* by Professor Plateletz on the "Relation of Suprarenal Secre-

tions to trophic influences in the Pineal Gland."

II. It will, of course, be urged that, as the cautious physician says in one of Galsworthy's plays, "If you once get away from physical facts, you are lost." To represent the practitioner of good attainments and wide experience as neglecting the factors of mentality or environment in his treatment is wholly inaccurate. He keeps them perpetually in mind. But he also knows that this element in his stock-in-trade is distractingly elusive. If he puts a fomentation on a septic finger he knows what to expect and usually obtains it. But how, he asks himself with considerable show of reason, is all the psychology of up-to-date manuals going to help him when he has to do with an obstinate case of nervous dyspepsia? The patient is sick of being told that there is "nothing organically wrong," and clearly resents the most tactfully disguised hint that he is thinking too much about his health. A complete change of occupation has already been tried with no very obvious result. The doctor can continue his experiments, ranging from deep hypnosis to a short cruise in a ten-ton yacht; but he is uncomfortably aware that, if the hypnosis succeeds, it is probably owing to some subtle trait in the "operator," and if the yachting cruise fails, the failure may be due to the presence of an uncongenial person on board. Finally, perhaps, his patient recovers—at any rate temporarily—as the result of absorption in bee-keeping, a pursuit to which he was drawn by the importunity of an entirely unscientific friend. It hardly seems to be a sufficient return for all the trouble the doctor has taken to meet the modern demand that he should "make a study of psycho-

logy." As Sir Henry Morris has quite truly said :

"Though hypnotism has from time to time been revived, and there have been periods when it excited great interest on account of its positive effects, it has invariably fallen back again into disfavour, owing to the uncertainty of its action and its failures on a large scale as a therapeutical agent" (CXIV, Jan. 18, 1910).

The same could be said of other forms of psychotherapy. Can the physician be fairly blamed if he turns back to the laboratory, the instrument case, and even the despised dispensary, knowing that these "material means" will within limits do what he expects of them?

It is, in fact, the old, age-long conflict between naturalism and spiritualism appearing in an altered form. Mr. Balfour has put the case of the naturalist rationally and soberly in a well-known passage.

"How many persons," he says, "acquiesce in the limitations of the Naturalistic creed, not because it appeals to them as adequate—responsive and satisfying to their whole nature—but because loyalty to reason seems to require their acceptance of it, and to require their acceptance of nothing else? 'Positive knowledge,' they are taught to believe, is really knowledge and the only knowledge. All else is but phantasy, unverified and unverifiable—speculative ore unmined by experience, which each man may arbitrarily assess at his own valuation, which no man can force into general circulation. Naturalism, on the other hand, provides them with a system of beliefs which, with all its limitations, is in their judgment rational, self-consistent, sure. It may not give them all they ask; but what it promises it gives; and what it gives may be accepted in all security" (CXXXI, p. 227).

Against this bluff condescension we have to set unwarrantable assertions of the kind quoted on p. 145, and the adumbration of a natural philosophy which is not so much unverifiable as demonstrably untrue.

The parallel between all this and the latent antagonism between the "material" and "psychological" schools of medicine is extraordinarily close. The disposition to explain all spiritual fervour as a pathological phenomenon, as exemplified by the writings of Binet-Sanglé, Max Nordau and others, is well summarized by William James as follows :

"Medical materialism finishes up Saint Paul by calling his vision on the road to Damascus a discharging lesion of the occipital cortex, he being an epileptic. It snuffs out Saint Teresa as an hysteric, Saint Francis of Assisi as an hereditary degenerate. George Fox's discontent with the shams of his age and his pining for spiritual veracity, it treats as a symptom of a disordered colon. . . . All such mental overtensions, it says, are, when you come to the bottom of the matter, mere affairs of diathesis (auto-intoxications most probably), due to the perverted action of various glands which physiology will yet discover" (CXXIII, p. 13).

But, when it comes to a criticism of the claims of psycho-therapy, the "medical materialist" can do much better than this. Not many years before his death, Dr. C. Mercier expressed and found a medical paper willing to print his approval of the practice of psycho-analysis as a means whereby persons of a diseased imagination can indulge their unclean passions without doing a great deal of positive harm.

III. In an ideal "health-establishment" (it is to be regretted that in this country the useful term "sanatorium" is only used in connexion with consumption), the practice of scientific medicine and surgery would be carried out in all its varied branches. But it would be recognized that a comparatively small proportion of sufferers would directly benefit from the application of the skill and knowledge of trained and experienced practitioners

operating on orthodox lines—perhaps not more than three in every ten. The remainder, after due observation and careful classification, would be scheduled for treatment on large psychological principles. But the difficulties would be by no means over.

(1) The insistent casuistical question—how far it is legitimate to deceive a patient or encourage indulgence in morbid fancies—would have to be squarely faced. In an amusing and hardly exaggerated passage in the *Doctor's Dilemma*, "B.B.," in reference to his surgical friend's fondness for excising the "nuciform sac," remarks :

"Of course I'm glad for Walpole's sake that the operation is fashionable ; for he's a dear good fellow ; and after all, as I always tell people, the operation will do them no harm : indeed, I've known the nervous shake up and the fortnight in bed do people a lot of good . . . but still it's a shocking fraud."

This is by no means sheer buffoonery. Let us suppose that a surgeon of long experience has frequently removed the appendix, found it unexpectedly healthy, but noticed that there was marked improvement in the patient's condition after the operation. This had happened so often that it could hardly be a mere coincidence. The surgeon is consulted by a highly neurotic lady who undoubtedly suffers from abdominal pain, indigestion, etc., and is convinced that her appendix is involved. Examination does not bear this out ; yet the surgeon may feel convinced that nothing would be likely to do so much good as "the nervous shake up and the fortnight (or more) in bed" which an operation would entail. It must be observed that he is precluded from putting the case clearly before her. If he were to say : "I am practically certain that there is nothing

the matter with your appendix ; but the shock of the operation will probably be very good for you ; it always is in the case of nervous, hysterical people, even if their appendices are quite healthy. Shall I take it out ? ” he would of course meet with an indignant refusal. To operate, having gained the patient’s consent by the implication that he thought appendicitis quite probable, would be nothing short of an outrage. Yet he knows that by submitting to the guidance of moral scruples, he is probably missing his best chance of securing to his patient the enjoyment of several years of freedom from ill-health and consequent unhappiness. A casuist who will define the extent to which “ diplomacy ” (for an excellent end) may legitimately be carried is badly wanted.

(2) The object, it must be repeated, is to make and keep the patient as healthy as possible. If there is an eradicable disease, every effort will be made to eradicate it. But if the above object is honestly kept in view, it is safe to say that nearly as many patients with as without discernible organic lesions will be referred for psychological treatment. Thus—a patient with an incompetent valve of the heart may have been observed and treated in an ordinary ward for a few weeks. He is decidedly better ; but nothing is more certain than that, if he now goes back to his ordinary life, in a very short time he will be as he was when he was admitted. He would therefore be “ turned over ” to the psychological expert in the hope that something like the result described in case 84 (p. 289) might be reached. But who would take the responsibility of advising some course of life which might, considerably improve the

general condition and make the patient a much happier man, but might, on the other hand, prove fatal? This particular difficulty would not be so likely to arise in such a condition as phthisis; but, generally speaking, the psychological influences which have done most good in the case of serious organic maladies are of a kind which might just as easily have resulted in disaster. Yet to apply psychological treatment cautiously and half-heartedly to this sort of case would be of very little use. It would be interesting to know in detail how the pioneers of the "Emmanuel Church movement" meet this difficulty. Their general procedure seems to be entirely sound (e.g. CXIII, p. 17, and elsewhere).

(3) Whatever the maladies and whatever the character of the patients treated, the psychologist before very long becomes only too conscious that, if he is to succeed, he must hand out to his patients something which he does not profess to deliver. His more fortunate colleague who spends his mornings removing tonsils and scraping adenoids is not troubled with these perplexities. His methods of barbarism may or may not benefit the child; but, if they do, it is because the tonsils have been cut out and the adenoids diminished and for no other reason whatsoever. But the psychologist must add to his openly professed system—whether he prefers to employ hypnosis, psycho-analysis, persuasion, direct suggestion, or any other method—an indefinable element for which, perhaps, "impressiveness" is the most appropriate name. If this is absent, he may re-educate or unravel complexes or instil ideas from dawn to dusk, but his permanent successes are likely to be a mere fraction of the whole.

From the time of Naaman to our own, patients demand to be impressed. If a leg is broken, it is of comparatively little importance whether or not the surgeon succeeds in "inspiring confidence," because, when once the leg is immobilized in plaster, distrust would have to amount to something like desperation in order to hinder the natural process of recovery. But in the psychologist's consulting-room confidence must be systematically fostered and much of the detail of the treatment employed subordinated to this end. The patient who has been the round (it is not at all an uncommon process) of bonesetter, physical culturist, higher-thought healer, and a dozen other vendors of recuperation is not likely to derive much solid good from the most scientifically applied Freudian methods if the general entourage is on a less impressive scale. Of course, so long as the doctor really believes in the inherent efficacy of "unravelling the complex" (if that happens to be his particular choice), all is well. His sincere belief will impress his patient more strongly than the most effective *mise-en-scène*. But when "little devil Doubt" begins to intrude, when he begins to think that almost any procedure would be about equally effective if urged with the same degree of confidence and zeal, it is as though his most trustworthy weapon was breaking in his hand. For there is nothing more contagious than doubt; and the man who has come to regard some carefully thought out ritual as little more than so much elaborate conjurer's patter will soon find that his patients are paying him the compliment of sharing in his disillusion and that they bitterly resent the enlightenment which they think that he has forced upon them.

(4) The answer to all this bewilderment surely is that in the "perfect sanatorium" of our dreams these and other problems and perplexities would be fully realized, but that in spite of them brave men and women would be working for the common good. Moreover, experience would gradually guide the selection of the class of ailment for the amelioration of which psychological treatment was most clearly indicated, and at the same time establish useful principles as to when light, massage, exercises, baths, drugs, etc., were to be used not in the orthodox manner, but rather by way of appeal to the patient's imagination. Together with this the limits of the necessary *disciplina arcani* would be carefully defined. Meanwhile, the services of men who really did believe in the specific value of some rather doubtful line of treatment would be gladly utilized. It is probable that such men will always be found, and there is no reason to question their intellectual competence. When a practitioner of some standing and experience tells us that in cases of hysteria "simple persuasion and a clear explanation of his condition are all that are required in the great majority of cases" (CXXII, vol. 2, p. 58), it is safe to assume that he believes what he says. There must be a fair number of thoroughly capable physicians now living who honestly believe in the therapeutic qualities of some form of tuberculin or use an autogenous vaccine in broncho-pneumonia with unwavering confidence in its effectiveness. It takes all sorts to make a world.

IV. But in our Utopian Home of Healing the strongest and most insistent feature in human experience could not be excluded. It was a cautious

man of science, the present Regius Professor of Physic at Cambridge, who said :

“Spiritual gifts may or may not consist in the insertion of a new entity, they certainly do consist in a reanimation and remodelling of thinking matter in the uppermost strands of the brain, and probably of some other, perhaps even of all the other molecular activities of the body” (CXIV, 1910, p. 1453).

And here we find the atmosphere in which we approach the restoration of healthful conditions not only charged but changed. The religious force which is to make the body whole must be inspired by a living faith, or it ceases to be a force at all. “Nothing in life,” said the late Sir W. Osler, “is more wonderful than faith—the one great moving force which we can neither weigh in the balance nor test in the crucible.” If the current religion in the community has become merely a respectable auxiliary in the maintenance of social order, or, worse still, an æsthetic dilettantism, making play with a tradition which it dares no longer to interpret, it may as well be disregarded as a therapeutic factor. And how will the ardour of faith survive under the cheerless glare of continuous scrutiny which will certainly reveal a due measure of ineptitude and failure ? Yet, since we are assumed to be indifferent to everything but the results of our labours, the effectiveness in respect of physical betterment of fervent religious belief must be scrutinized as carefully as the value of open-air treatment or of artificial pneumo-thorax. This is the real problem. The fact that recent investigation into the fruits of religious activities assigns to them only such results as have long been familiar in other spheres presents no difficulty whatever. Could anything

else be expected in an age of scepticism and critical inquiry? The question is whether, inasmuch as we are pledged to that amount of inquiry which alone can make accuracy of statement possible, the ardour of faith must always be checked and thwarted by a thoroughly uncongenial control?

Not of necessity. It is difficult for the steadfast flame of a conquering and subduing faith to burn and glow in the gloomy confines of Doubting Castle—difficult but not impossible. The faith which thrives only in placid pastures and beneath unclouded skies has no message for heroic souls who know that the world can be re-made. In stress and storm are laid and lighted the beacon fires which call to action.

Now, admittedly, a great intensity of faith is demanded if transformation of soul or body is to be effected. No mere polite conformity or languid acquiescence will bring to pass the miracles of grace. It is of course conceivable that a strong revival of religious fervour might appear to do no more than supplement the known wonders of the subconscious mind. Or, on the other hand, the arrest of destructive changes and the stimulation of new cell activity might be of such a kind as to amount to something more than a mere difference in degree. We are still in the region of conjecture. We have not much to guide us. Perhaps the most striking results will never certainly be known.

V. We are thus confronted by the paradoxical situation of the two great modern forces, Religion and Medical Science, to some extent driven into misunderstandings, but far more often hindered from cementing an effective union because neither likes to own its limitations. How much we owe to

them. How splendidly they have won general recognition. In our own country alone the old religious worship with its leisured dignity and complacent self-absorption will no longer serve. The Church of this century must meet humanity and learn to know its needs and speak its language. Her activities are in the market-place. The social service which endows so generously the life we know is at least as warmly and as urgently extolled as the personal holiness which looks forward to the life to come. In the words of a modern teacher of wide influence and large sympathies, "The Christian life is not that of visionaries, it is a life of action. The first thought of those who live it day by day is of something immediately to be done. It is this practical quality of the Christian life which keeps it both healthy and honourable. For the soul as for the nation, service is the highest honour" (CXIX, p. 34). *Laborare est orare* has a wealth of meaning which would, perhaps, have startled those who first applied the phrase.

And Medicine, with her students, her heroes, her martyrs, the wide research, the laborious investigation, the unwearied clinical observation—has she not deserved well of a grateful generation?

No doubt. Yet in neither case is the present position altogether satisfactory. In a word, the Church would gain if she developed the spiritual, and medicine the practical side. On the religious side it is worth noting that this need is already felt in a somewhat unexpected quarter. The following description of a striking movement in the days immediately before the war is from the pen of a shrewd observer:

“There is a great movement to-day in France among the Catholic workpeople. At fixed intervals they lay down their tools, forsake the factory and the wineshop, empty their purses into the laps of the women, and go into ‘re-treat.’ For two or three days they entirely forget both anxieties and ambitions, giving their minds up to the thing that money cannot buy. Even if their religion is adulterated with superstition there is more than sufficient of the precious metal to carry this alloy. It is rather wonderful to think of these rough fellows voluntarily depriving themselves of the insignificant luxuries that add slight lustre to their drab lives and going into a place where even speech is a sin. Yet this movement is spreading up and down the Republic. If these men did not return to their labours physically refreshed others would not follow their example. But experience shows they *do* come back the better for the mental cure” (CXVIII, p. 135).

This seems to be by way of reaction to the movement of twenty-five years ago when the French clergy were advised to “come out of their sacristies.” The English clergy did this long ago, and have lost something in the process. Perhaps medical science would also lose something if she came boldly out of the laboratory. But the gain would be so considerable that the risk is worth incurring. The future is rich in promise; but the inheritance will not be lightly won. Neither in unthinking optimism nor in the pessimism of disillusion will the way be found. The sacrament of human effort joins hands across the ages with the glad hope of conquered death, and is renewed and quickened in the warmth of Pentecostal fire.

Life calls : man hearkens : God controls.

CHAPTER XVII

LAST THOUGHTS

MEDICINE is the link between science and art. It can never hope to be an exact science like the physical sciences because it deals with mind as well as matter. It is not the highest form of art because it is circumscribed by scientific considerations. On the other hand, by virtue of its unique position between these two it can draw upon all departments of knowledge. It can learn from all and utilize every human effort. Hope and joy have long been included in *materia medica*. Faith has always been the keystone of the doctor's work. "Believe that life is worth living and your belief will help create the fact," says William James.

Because it takes into consideration the soul as well as the body of man the art of medicine is greater than its science. The healing art, in whatever form it has manifested itself, in whatever time and circumstance, has always appealed to the permanent mental processes in mankind. Hence its success. It could heal in no other way. Science may make discoveries in the limited realm of nature, but the great inspirations of the human mind do not change with the ages. A soldier to-day is no braver than Alexander's warriors. The patriot is

no more loyal than he of old. Husbands and wives, parents and children, brothers and sisters loved each other as truly in bygone days.

Faith is no greater now, nor no less. If the pool is stirred, the sick will as surely be made whole in the twentieth century, as in the first.

The modern Bethesda, however, is a metaphorical one. The waters are the draught of wisdom. Common sense in an uncommon degree. Reason sweetened with humour, as Erasmus would put it. If we would be sound in thought and vessel and limb, we must have the intention to be well. The mind made up definitely that fitness in all its aspects is our vocation. This part of the cure rests with us alone. The doctor may do his part ever so loyally, but if we hold back and do not go out to meet him, his effort will prove barren of results.

In so much as they have given encouragement, and inculcated self-possession and self-reliance, many of the new and unorthodox schools of mind cure have done good. But we must beware of the philosophy that they advance to explain the facts. The facts may not be in dispute. But the philosophy is a kind of Platonic-Baconianism that defies all efforts at comprehension. A few passages from Macaulay might help these folk to clarify their minds.

Much indeed depends on the reconciliation of Greek thought with the scientific temper, but it cannot be done by throwing matter overboard any more than it is to be achieved by declaring mind a function of the brain.

As Huxley puts it, the question of questions for every man born into this world must be what are

the limits of our power over Nature and of Nature's power over us? Whence has our race come? To what goal are we tending? The questions are not to be answered by shirking the responsibility of thought.

The transcendentalists say that in its essence personality is unconditioned by time and space, but here on earth we have to deal, not with discarnate spirits, but with men and women in the flesh. Minds having some control of matter it is true, but circumscribed by matter all the same.

The problems of evil, pain, suffering and want, cannot be solved in any one age, and for all time they are part of the experience of progress. There is no doubt that slum life is only tolerable because of its uncertainty. A well-known writer argues that "it is healthier than the complacency of the respectable world, without aim, without fear, but equally without hope."

Medical men, arguing from anatomy and physiology, say there is not the slightest reason why we should not live 120 years. The poets, on the other hand, contend that it is much more important *how we live than how long we live*. Longevity is based on both these conceptions. The person who does the most with each year is *ipso facto* thereby increasing his chance of another year of achievement.

It is a commonplace experience that individuals that purchase annuities live long. The explanation is simple. All their material needs being provided for, they are free to engage their minds as they please and can take an interest in wider and more stimulating issues than would otherwise occupy their thoughts.

So much in life depends on mood and imagination. As Epictetus says: "It is not real things that disturb men's minds, but the opinions men have of these things." We are happier than we know. If we were half as wicked as they try to make out we should never have been admitted into the company of Aucassin and Nicolette. We should not have cared a fig about Romeo's love-making or Juliet's loveliness. The world at its worst moments has always wanted fairy stories with a happy ending. It is willing occasionally to purge its soul with tragedy that it may have the more delicate appreciation of the beautiful.

Matthew Arnold says somewhere that the real object in life should consist of *being* and not *having*. The acquisition of interests, not possessions. Deep down in our hearts lies this great ambition to *do*. Our imagination in its best moments soars far above the soul-destroying trivialities of everyday life. We long—unconsciously it may be—for other worlds to conquer, while our attention is held down by pressing material needs.

This is the great issue between soul and flesh. The problem of the ages and of every age. Thought confined in the puny brain. We get over the difficulty partly because, although we are subject to the limitations of our animal nature, we are tool-using animals. With our implements we can see with a thousand eyes, hear with a thousand ears, and gather learning from any epoch we choose.

It is suggested that in the ages to come we shall have still greater opportunities of cultivating our spiritual nature. The advantages of tele-vision and telephonic communication will enable us to live if we

desire in a state of splendid isolation and not necessarily in physical contact with our neighbours. Be that as it may, health is a question of wider interest than those represented by the test-tube or scalpel. No self can reach fruition without the nourishment of the effort and sympathy of other selves. Fitness is another matter than merely chemistry and nerves. If, as we have seen, every idea that inspires our mind, every thought that is weighed by our reason, affects the quality of our blood and the texture of our tissue, then surely the possession of a well-balanced mind is all-important to our welfare. And to this end traffic in intellect is no less needed than commerce of a grosser sort. The idea that is hoarded decays. As the great Lord Bacon says, knowledge to be of any intrinsic value must assume a form that renders it capable of being handed on to others. Even the animals aim at self-expression. The very essence of personality is "that particular quality of character which makes each man or woman in this world different from all other men and women in the world." This quality can never develop if its manifestation is repressed.

Lamartine, writing about the genius of the French, claims for his countrymen what we should all endeavour to make our supreme purpose in life. Not cold dispassionate intelligence, but talents warmed with feeling, ripe for the use of society at large. As another of his race so justly points out, why should men not be made to feel that moral harmony is at least as pleasing as physical harmony?

A we do not live like monks in cells, health is bound to have a social and ethical aspect.

We must beware of leaning too heavily on science in this matter. Life depends on far more than bodies and banking accounts. Science deals with the things that can be seen and felt. If we have no mind above the things of science we cannot truly be said to be living at all. We are all in search of what we are pleased to call happiness. The goal, so far as the limitation of language allows, is definable according to our several views of felicity. But we can all agree on one principle. No aspect of life can afford permanent satisfaction that does not include such freedom from disease as makes for what is commonly called ease. We need not go further than that in defining health. Physical ailments, like other troubles, have a comparative rather than an absolute importance. One plucky man thinks nothing of the loss of a limb, while his chicken-hearted fellow wanders from consulting-room to consulting-room in search of an interest in life.

When we think of it, the desirable and the undesirable are very closely linked up. To feel hungry—but not to suffer hunger. To be thirsty—but not to thirst. Longing, satiety, hope, fulfilment, these seem to be the very pulsation of our consciousness itself. The very throb and heartbeat of life. It is in this restlessness amid material things, this dissatisfaction with the world as it is revealed to us by our senses, that we find our greatest joys. When science tells us that this globe of ours is daily growing colder and will eventually be incapable of supporting human life, we laugh and extend our imagination towards the infinite, that wonderful all-comprehensive unity that gives outline and colour to each and every item of our experience.

The ordinary rhythmic measures of life are gathered up into the greater harmonies by virtue of the practice of detachment and self-possession. Had the race been dragged at the heels of every chance idea, or flitted thither and hither at the beck and call of every idle thought, the march of intellect would indeed have been slow. It is the intrepid leaders of set purpose who have made each thought and deed subservient to their prime object who have brought us out of Egypt. Not the men, as Macaulay puts it, who would exalt us all to the gods, but the simple practical folk whose efforts "began in observation and ended in the arts."

Self-knowledge and self-government are the two requisite qualifications for the enjoyment of life on earth. How are these to be attained is the great problem for every man and woman residing on this planet. The untrained mind is a bundle of primitive passions that the owner has in common with other specimens of humanity, and any one of which may step to the front and set the pace. Education should aim at the co-ordination of these impulses, the development of personality, a *character* with a mind of its own. Until this stage is reached life is bound to be to a great extent *impersonal*. Existence is merely automatic reaction to every accidental stimulus. To see anything is to want it, and if the senses are not engaged life appears an appalling blank.

The relationship of the sexes too has to be defined. Men's minds and women's minds are not the same. Existence would be robbed of its greatest joys if they were.

Marriage is two beings—

“Not like to like, but like in difference,”

combined into a single life.

The writer picked up on the battlefield of Peronne a fragment of a famous book. A scrap of a page of *Don Quixote*; an engraving of two girls unlacing his armour on one side and some lines in French on the back. The incident recorded is that of Don Quixote's first adventure with two village girls, whom he takes to be princesses living in a castle.

It will be remembered that he bewilders the damsels with his flowery language. They are unaccustomed to such talk and listen in silence, only venturing when the speech is finished to ask him if he would like something to eat!

It is doubtful whether the respective characters of the two sexes have ever been portrayed with deeper sympathy or more wisdom than in those few words written centuries ago by Miguel de Cervantes, a chivalrous warrior and the devoted husband of a charming lady.

Women don't marry the man who *has* or *knows*, but the man who *understands*. In the same way men don't fall in love with beautiful women, but the woman who charms them.

The whole problem of sex so much debated to-day is first and last a psychological one.

It is not seriously suggested that all wives and husbands should go through a course in psychoanalysis, but it is certain that everyone in youth should be afforded the opportunity of becoming acquainted with his own mind and learn to gauge the minds of others. There is a vast store of information that will be available when it has been translated from the jargon of the laboratory to

interest every boy and girl as well as their fathers and mothers.

We live in a world of *values*, not in a scientific workshop, and the facts obtained by science have to be digested by society before we can profit socially from the scientific harvest.

The mind is infinite beyond knowledge. Thought is far more potent than we dream of. These are the grand foundations on which we can build our ideas.

If there is a universal mind (which reason forbids us to deny), laying all other minds under contribution, then it behoves us to see that our quota is a credit to the race from which we have sprung.

Health of mind will never wait on loose thinking and ill-considered acts. "The first constructive effort of the imagination is beyond the limit of consciousness," says Bagehot. "The faculty works unseen. But we know that it works in a certain soft leisure only, and this in ordinary minds is almost confined to, in the highest is most commonly accompanied by, the subtler emotion of reverie." It is true that we can have no cognizance of the mind apart from its environment. It is only the knowledge of the outer world that reaches the brain through the senses that can give scope for speculation, because the universe of matter is the instrument by means of which intelligence reveals and expresses itself. But once the door of the senses is opened the number of possible mental experiences of sound, sight, touch and movement is incalculable and the possible combinations of ideas resulting from these experiences are beyond all mathematical estimation.

Therein lies the key to the great mystery of man's dominion over Nature. If he will only make the

effort he can be the architect of his fate instead of the victim of circumstance. The fathomless pool of ideas is the real widow's cruse. It offers us riches beyond the dreams of avarice, because the paradox of spirituality lies in the fact that the more prodigal we are of our treasure the bigger our store grows. Each idea to which we give expression enriches both the donor and the recipient.

Health demands, too, that life shall not be entirely a solemn progress. Joy is as necessary to our well-being as bread and air. Music teaches us the secret of translating impulses from without into terms of pleasure. We stand in exactly the same relation to all external phenomena as we do to the noise that our ears turn to melody. We possess a natural aptitude for happiness and wholesome thought if we would only recognize it. The whole charm of existence depends on our own temper and disposition. We must cultivate the mood that best accords with our circumstances, surrender ourselves to that mood, and allow to our subconscious mind to make the most of it. Along such lines we can train ourselves to become a kind of musical instrument in our persons. So that whatever occurs, nice or objectionable, we immediately and without conscious effort translate all these happenings into an inward melody of soul.

To the optimist life is a wonderful game. Not for one or two, but a round game with handicaps; these so ingeniously planned that young and old compete on equal terms. A game so entrancing that we never think of prizes, but only want to go on playing. The game has one rule. We are to try and piece together all our little experiences into

one big experience, all the little ventures leading up to one big venture when, no longer harnessed to flesh and bone, man is able to see things clearly face to face.

The problem of life's future must be confronted if the affairs of everyday occurrence are to be viewed in correct perspective. The longer we ignore the questions of extension and clock time, the closer they press on us. What do we mean by *here* and *there*? Does to-day end and the morrow commence? The mind will have an answer to these questions; and if science or philosophy cannot supply the key the religious emotions are ready to do so. As Samuel Butler truthfully avers: "The highest thought is ineffable. The moment a thing is written and reasoned about it has changed its nature and become tangible and hence finite. . . . It has entered into death." Now the events in human existence cannot be measured by time or space. We annihilate these conceptions directly we grasp the ideas of loyalty or honour. No principle of conduct has a local or temporary application. These truths are universal. Universal too in its application is the supreme affirmative that with all its vicissitudes life is a gift worth having.

If medicine has garnered a harvest through the centuries for the benefit of sick man, the fruits of her efforts are offered impartially to brain and body alike. Her care for the flesh does not make her less solicitous for the welfare of the mind. She knows that in no few cases the flesh is only to be reached through the intellect and the imagination.

She does not claim infallibility, but only the privilege of service.

APPENDIX

RESULTS OF AN INQUIRY INTO REMARKABLE CURES SAID TO HAVE BEEN EFFECTED BY MIRACULOUS HEALING, 1910-14

(i) After much fruitless correspondence during the best part of two years I drew up a short inquiry form in which I asked for (*a*) names and addresses of doctors who had made the diagnoses, (*b*) approximate date of treatment by "spiritual healing," (*c*) evidence of present condition; in each case in which any remarkable recovery was reported, I sent out one of these forms. I see by my notebook that sixty-seven forms were dispatched. Three were returned empty. Not one was filled in.

(ii) The best instance I can give of the rare occasions on which I actually came to close quarters with facts is the following:

In January, 1912, I was told that Mr. A. B., who lived not far from X., could let me have full details of "several cases of locomotor ataxy and osteo-arthritis" which had been completely cured by "spiritual healing." This was on the face of it well worthy of investigation. An introduction was effected. Mr. B. proved to be not only a singularly attractive person, but a man who thoroughly understood what scientific investigation meant. Taught by experience, I ventured to point out that "improvement" was usually difficult to estimate and that I thought it would be well if we confined

our attention to cases where the cure appeared to be absolute. I was assured that *cures* would be forthcoming. There would be no difficulty in getting complete confirmatory diagnoses. Best of all, I could actually see the persons who had been afflicted and had now recovered and could form my own estimate of the completeness and permanence of the result. Two cases of locomotor ataxy and one of osteo-arthritis would be submitted. Nothing could be more satisfactory.

I went down to X. on the appointed day. Mr. B. could not have been more courteous if he had been welcoming an influential guest instead of an inquirer charged with tiresome questions. It soon appeared that in one of the cases of locomotor ataxy the diagnosis was doubtful. In the other there was said to be no doubt about it. This would, of course, be a matter for subsequent inquiry. Confining my attention to this case, I examined the patient. His walking powers were fairly good, but there was a typical "Argyll-Robertson" pupil of the eye, and knee-jerks were absent. I could only beg him to let me know when the pupil had become normal and the knee-jerks had returned. I have not heard from him since.

Then I turned my attention to the case of osteo-arthritis which was supposed to have been cured. In taking me to the patient's bedside my kindly host admitted that, though he regarded the cure as "practically complete," yet the patient still varied somewhat from day to day, and it was unfortunate that "this was one of the days when he was not so well as usual." Well, I suppose I have seen worse cases of osteo-arthritis than that which was presented by this patient, hopeful, cheerful young man whom I now saw before me, but certainly not many. Several joints were involved. There were undoubted and extensive changes in each, and there was considerable wasting and some deformity. Here again, after a few encouraging words, I suggested to Mr. B. that

perhaps it would be well if I examined him again when the disease had been completely conquered. In this instance also I have received no further information.

(iii) In respect of one "Healer," of whose entire sincerity I am convinced, I was able to carry out investigations in the most satisfactory manner possible. That is to say, I saw the patients before the "healing" was begun, and I was quite ready to see them afterwards if recovery or improvement were reported. I do not really think that there would be any objection on the part of this lady to the mention of her name; but, as it is possible that patients might think that their confidence had been abused, perhaps it will be more convenient to call her Miss Z. During some three years she sent me in all seven cases. Of these three were not very satisfactory, since diagnosis and even the estimate of physical disability were doubtful.

One case was for the purposes of the inquiry excellent. It was said to have been diagnosed as cancer. The patient presented a large ulcer on the skin which had one or two well-marked signs of malignancy. Other evidence of a cancerous condition was absent. The only way to have settled the question would have been to excise a small portion at the edge and submit it to microscopical examination. I urged the patient in her own interests to have this done, but I do not know whether or not my advice was followed. I told Miss Z. that in any case complete recovery under "Spiritual Healing" would be a remarkable event. The patient died shortly afterwards, presumably of cancer.

The remaining three cases were absolutely of the first rank, and exactly what was wanted. The first was old-standing infantile paralysis in an adult. I made my notes, and saw the patient a second time after she had been under treatment for some months. I could not honestly say that I saw any difference, though I can quite believe that the patient was correct in her statement

that her powers of walking had improved. Miss Z. took a different view and thought that there was visible improvement. But we agreed that the condition was very far from normal and that it would be more satisfactory if in future we disregarded "improvement" in these cases and took notice only of a complete return to the normal. In this case treatment was discontinued ; and I think that there cannot have been complete recovery, or I should probably have been advised of it.

The other two were cases of complete blindness through atrophy of the optic nerve. Here diagnosis was the simplest matter imaginable, and restoration of sight would have been equally susceptible of clear and definite proof. Besides, one at least of the two girls had attended a well-known ophthalmic hospital, and confirmatory evidence of the diagnosis was easily obtainable. The last account is that sight has not returned. Miss Z. attributes this to the fact that both patients "are too well satisfied with their present condition."

(iv) In 1913 through the kindness of the late Mgr. R. H. Benson I was able to get into touch with the British medical representative at the *Bureau des Constatations*, Lourdes. I asked him to send me any cases of visitors from the British Isles in which a recovery of the kind required had taken place during the last ten years. If he would let me have the names and addresses of the patients, I would do the rest. As a result of some further correspondence only one case was forthcoming. This appeared to have been a case of middle-ear disease in which the discharge had ceased after special devotion to Our Lady of Lourdes. It was, of course, not what was wanted. Since the war I have made another effort. The English doctor now at the *Bureau* writes that "the only two cases entered are the one suffering from middle-ear disease which has already been brought to your notice, and the other a young girl suffering from various functional troubles." No doubt the number of pilgrims

from the United Kingdom is still far below the pre-war average. I trust that the Lourdes authorities realize how deeply the courtesy and candour with which they meet inquiry are appreciated by medical men of all denominations or of none.

(v) While this book was in course of preparation I also wrote to :

(a) The authoress of *The Living Touch* (1914), advertised as "the personal story of Miss ——, whose miraculous restoration to health when in the last stage of phthisis attracted so much attention," etc. I asked for the names and addresses of two doctors who are mentioned in the course of the narrative.

(b) Fr. J. C. Fitzgerald, C.R., asking for particulars of two cases to which he referred in his evidence before the Dean of Westminster's Committee (CXI, p. 40). To these letters no replies have yet been received.

H. G. G. MACKENZIE.



GLOSSARY OF TECHNICAL OR UNUSUAL TERMS

Abscess. A circumscribed collection of pus in any part of the body.

Alienation. Mental derangement.

Alienist. A specialist in mental disorders.

Amblyopia. A dimness of vision owing to some irregular condition of the optic nerve, usually a temporary inflammation. Also used generally of any dimness of vision without ascertained organic cause.

Amnesia. Loss of memory.

Anabolism. A process by which through cell activity simple substances are built up into more complex forms.

Anæsthesia. Loss of sensation, either local or general.

Anatomy (Human). The science of the structure of the human body.

Angina Pectoris. A painful contraction of heart muscle. The "true angina" is due to definite organic causes and is a serious condition. The pathology of "false angina" is still somewhat conjectural.

Anti-Toxin. A defensive substance (usually a protein, which resists the action of toxins or organic poisons in the body. It may be manufactured in the patient's body or may be artificially prepared outside and introduced as a reinforcement.

Aortic Disease. Strictly, disease of the aorta (a large artery). Commonly used of incompetence of the aortic valve of the heart.

Appendix (Vermiform). A worm-like pouch or blind tube leading from the large intestine near its beginning. Its function is not very evident. It may be merely a survival.

Argyll-Robertson Pupil. A pupil, found especially in locomotor ataxy, which contracts when the eye is directed to a near object, but not on a change from darkness to light.

Asepsis. The state of freedom from microbic infection.

Auscultation. Listening for distinctive sounds, especially in the chest, either by the ear or with the aid of a stethoscope.

Auto-Suggestion. The apparently spontaneous occurrence in the mind of ideas derived from impressions received in the hypnotic state, under stress of a sudden shock, or in analogous conditions.

Brachial Plexus. A name given to a junction between and re-distribution of nerves coming from the spinal cord at the lowest part of the neck.

Bubonic Plague. An acute febrile and very fatal disease of an epidemic nature, caused by a bacillus which has been isolated. Generally held to be rat-borne.

Callus. The exudate about the broken ends of a bone which eventually under favourable conditions accomplishes repair. This is an elaborate process.

Calory. The unit of heat, calculated as the amount of heat required to raise one cubic centimetre of water 1 degree Centigrade.

Capillary. The smallest variety of blood-vessel.

Cardiac. Pertaining to the heart.

Cartilage. A gristly substance found in various parts of the body; e.g., on the articular ends of bones, in the nose, and so on.

Cataract. A disease of the eye in which opacity of the crystalline lens impairs or destroys vision.

Chorea. A definite malady, causing abnormal gesticulation or convulsive movements. Commonly called St. Vitus' dance.

Cirrhosis. Chronic inflammation of any organ, resulting in deposition of fibrous tissue. In the liver it produces a definite result peculiar to that organ, but the pathological process is really the same everywhere.

Clavicle. The collar-bone.

Clinical. Anything pertaining to the practical study of disease in the living subject. A clinic is a place in

which practical instruction on the sick subject is given.

Complex. A term given by Freud to a series of emotionally accentuated ideas in a repressed state (Brill). It is used more widely than this by many psycho-therapists.

Conjunctivitis. Inflammation of the conjunctiva or membrane covering part of the front of the eye and reflected on to the eyelids.

Corneal Opacity. Dimness, usually through injury or disease leaving an opaque scar, of the cornea or transparent outer layer of the front of the eye through which rays of light pass to the lens and so on to the retina.

Corneal Reflex. Instantaneous closing of the eye when the cornea is touched. This disappears in certain conditions, notably in complete anaesthesia.

Cortex. The outer rim of an organ, especially applied to the brain and kidney.

Cortical. Pertaining to the cortex.

Cyst (Sebaceous). A small bag-like organ formed by the retention of the material secreted by the sebaceous glands.

Cystoscope. An instrument by which the interior of the bladder can be observed.

Dermatologist. An expert in skin diseases.

Diabetes. Strictly, any condition in which there is an excessive discharge of the normal secretion of the kidneys. It is often used when Diabetes Mellitus is meant. This is as above, but presents other symptoms in addition.

Disorientation. A somewhat obscure nervous disorder in which the patient constantly loses his "bearings."

Disseminated Sclerosis. A definite and serious disease characterized by patches of overgrown connective tissue in various parts of the brain or spinal cord.

Emetic. Anything which induces vomiting.

Enteric Fever. True typhoid fever. It is not properly applied to the "paratyphoid" variety.

Enteritis. Inflammation, usually of the small intestine.

Eschar. A slough produced by burning or the application of a corrosive substance.

Extensor Muscles. Muscles which extend a limb ; e.g., the powerful muscles on the front of the thigh which straighten the lower limb.

Fibrositis. Inflammatory overgrowth of white fibrous tissue in any part, but characteristically in certain parts, of the body, e.g., the loins. It is the salient feature of chronic "rheumatism."

Fibrous Tissue. The ordinary connective tissue of the body.

Functional Disease. A useful but inexact term applied to any bodily malady in which no definite lesion has been discovered or seriously assumed.

Ganglion. Principally used in two senses : (i) a mass of grey matter serving as a centre of nervous influence ; (ii) a cystic swelling, usually on a tendon.

Gastric. Pertaining to the stomach.

Gynæcology. The branch of medicine which deals with physical conditions peculiar to women.

Hæmoptysis. The spitting up of blood. Specially contrasted with **Hæmatemesis** or vomiting of blood.

Hemiplegia. Paralysis of one side of the body.

Hernia. The protrusion of a loop, etc., of an organ or tissue through an abnormal opening.

Hyoscyamus. A plant containing narcotic and kindred properties.

Hyperæsthesia. Excessive sensitiveness of the skin or of a special sense.

Hyperpyrexia. A high degree of fever.

Hypnotism. A condition of artificially induced sleep or somnolent trance. Occasionally loosely used for almost any variety of suggestion.

Hysteria. A mentally abnormal condition in which the most marked features are : (i) lack of control over acts and emotions ; (ii) morbid self-consciousness ; (iii) exaggeration of sense impressions ; (iv) simulation (involuntary or deliberate) of disease.

Hystero-Tetanus. A condition, really hysterical, but presenting all the symptoms of tetanus.

Idiopathic. The word is strictly applied to any condition in which, whatever the immediate cause of the malady may be, the ultimate cause is held to reside in some peculiarity of the person attacked. It is commonly

used in connexion with any disorder in which the exciting cause is not known.

Infantile Paralysis. An acute infectious disease, usually affecting children. It causes serious damage to the spinal cord, with resulting wasting, loss of power, and deformity.

Inhibition. Arrest or restraint of a process effected by nervous influence.

Involuntary Muscle. Any muscle not subject to the control of the will, e.g., in the wall of a blood-vessel. Usually they are unstriated.

Katabolism. Change in cell structure of a destructive nature.

Knee-Jerk. An example of a tendon reflex. When the leg is hanging loosely, if the ligament just below the knee-cap is struck, the muscles of the front of the thigh contract and the leg is jerked upwards. It is absent in locomotor ataxy and other conditions.

Labyrinth. The innermost part of the ear.

Laparotomy. Loosely used for abdominal section at any point.

Laryngoscope. An apparatus used in visual examination of the larynx.

Larynx. The upper part of the air passage.

Lesion. Any kind of damage to tissue, whether by external violence, microbic action, degeneration, or other cause whatsoever.

Ligament. Any tough fibrous band which connects bones or supports viscera.

Lobar Pneumonia. An acute febrile disease produced by a specific organism and marked by inflammation of one or more lobes of the lung.

Locomotor Ataxy. A disease involving degeneration of certain parts of the spinal cord.

Lycanthropy. An ancient superstition which held that men and women were changed or changed themselves for malevolent purpose into the form of a wolf. Now used of a form of madness in which the above is the most marked delusion.

Malignant Tumour. A tumour likely to recur and destroy life.

- Megalomania.** An insane belief in one's own powers, immense wealth, etc.
- Mesentery.** A piece of peritoneum usually fixing abdominal viscera to the body wall.
- Middle-Ear Disease.** Disease of that part of the ear which is just beyond the ear drum.
- Myelitis.** Inflammation either of bone marrow or spinal cord.
- Nasal Polypus.** An outgrowth of mucous tissue with a narrow stem in the nose. Also applied to a true tumour of the same appearance.
- Neurasthenia.** Properly, depression due to exhaustion of nerve energy. Commonly applied to a large variety of functional nervous disorders.
- Neuritis.** Inflammation of a nerve. Many conditions so described are really inflammations of nerve sheaths.
- Neuropath.** A person affected with a nervous disorder.
- Nitrous Oxide.** "Laughing gas."
- Nympholept.** In mythology a person who caught a glimpse of a nymph or other sylvan tutelary being and ever afterwards spent his life in fruitless pursuit of the same.
- Obsession.** Domination of the mind by one idea. Also used of demoniacal possession.
- Obstetrics.** The science of the management of pregnancy and labour.
- Ophthalmology.** Knowledge of the eye and its diseases.
- Ophthalmoscope.** A mirror used in inspecting the interior of the eye.
- Optic Atrophy.** Atrophy or wasting of the optic nerve, in which the degenerated nerve tissue is replaced by fibrous tissue.
- Oral Sepsis.** The tissue changes found in the mouth due to the action of pyogenic organisms.
- Organic Disease.** A disease in which there is an ascertained change of tissue.
- Osteo-Arthritis.** An inflammation (usually with overgrowth of tissue) involving a joint and the neighbouring bones.
- Paralysis Agitans.** A progressive disease, generally occurring in later life, marked by tremors and other characteristic features.

- Paraplegia.** Paralysis of both sides. Usually applied to loss of power in both lower limbs.
- Paresis.** Incomplete paralysis. (This is its commonest meaning.)
- Pathology.** The science of the structural and functional changes caused by disease.
- Percussion.** Short sharp blows administered to any part (e.g., the chest) in order to ascertain the condition by the sound.
- Peritoneum.** The serous membrane which lines the abdominal wall and invests the contained viscera.
- Pernicious Anæmia.** A severe disorder marked by progressive diminution in certain elements of the blood. Usually fatal.
- Pharmacology.** The science of the composition and action of drugs.
- Phthisis.** Strictly, wasting; but commonly applied to pulmonary tuberculosis.
- Physiology.** The science which treats of the functions of the living organism and its parts.
- Pigmetophagus.** A micro-organism supposed to be responsible for destroying the colour of the hair.
- Protoplasm.** The essential constituent of the living cell.
- Protoxide of Nitrogen.** The same as nitrous oxide or laughing gas.
- Protozoon.** A primitive organism consisting of a single cell.
- Psycho-Analysis.** A method employed in order to arrive at past emotional experiences which, it is presumed, disturb the subliminal consciousness but are not present to the conscious mind.
- Psycho-Neurosis.** Any nervous disorder of a mental origin.
- Psycho-Therapy.** Cure of disease by the application of any form of suggestion or allied method.
- Pustule.** A small elevation of the outer skin filled with pus or lymph.
- Pyloric Cancer.** A cancer at the pyloric or further end of the stomach or in the first part of the intestine.
- Radical Cure.** A complete cure in which the root of the malady is removed.

- Raynaud's Disease.** A neurosis chiefly found in young persons in which constriction of small vessels (usually in hands or feet) gives rise to a feeling of numbness and may go on to gangrene.
- Recurrent Laryngeal Nerve.** An important nerve, lying at about the middle of the neck, which supplies the muscles of the larynx, etc.
- Reflex Action.** Production of an efferent nerve impulse by the stimulation of an afferent impulse. (See Chap. IX.)
- Refractive Media.** The transparent substances which conduct and refract rays of light going to the retina. The most important are the cornea, the crystalline lens, and the humours of the eye. The mechanism of refraction is assisted by dilatation and contraction of the pupil.
- Retina.** The innermost tunic and perceptive structure of the eye, formed by the expansion of the optic nerve.
- Scar Tissue.** The tough fibrous tissue which takes the place of normal tissue which has been destroyed by injury, inflammation, or decay.
- Scirrhus.** A hard cancer (carcinoma) with a marked predominance of connective tissue.
- Scurvy.** A disease characterized by angry patches on the skin, swelling of gums, fever, etc.; usually resulting from improper food.
- Secondary Hæmorrhage.** Bleeding which is renewed after it has once been arrested. Ordinarily the result of septic contamination of the wound.
- Sensorium.** Properly the whole sensory apparatus of the body, but frequently applied to the sum of sensory centres in the brain.
- Sinus.** A recess or cavity. The word is variously applied to natural spaces (e.g., frontal sinus), and channels or pits resulting from inflammatory destruction of tissue.
- Somnambule.** Properly, a hypnotized person who retains the use of his senses, but very commonly applied to a patient in any stage of hypnosis.
- Spleno-Medullary Leukæmia.** A disease characterized by diminution in red blood cells and a large increase in white cells; also by a great enlargement of the spleen. Very fatal.

- Stammer.** A markedly impaired function of nervous origin. Not necessarily confined to speech.
- Sterno-Mastoid Muscle.** An important muscle at the side of the neck used in various movements of the head.
- Stigmatization.** The reproduction in the body of a man or woman of the scars of the Wounds of the Passion. Also applied to bleeding at the traditional sites without a definite scar or wound.
- Suggestion.** The production of a desired condition in a person by imparting to him an idea from without.
- Supra-Pubic.** Situated above the pubic arch. Commonly applied to the route into the bladder followed at the lowest point of the abdomen in front.
- Tendon.** The fibrous cord by which many muscles end and by which they are attached to bone or other structure.
- Tetanus.** An acute and very fatal disease due to the entrance into the blood of a specific organism. "Lock-jaw" is a pronounced symptom.
- Therapeutics.** The science and art of healing.
- Thyroid Gland.** A large ductless gland lying in front and at the side of the windpipe. Its functions are still imperfectly understood. Absence, atrophy, or disease of the gland produces "cretinism," "myxœdema," etc.
- Toxæmia.** Blood-poisoning produced by microbes, but in which the manufacture of the poison takes place in the body of the person poisoned.
- Toxin.** A poison of organic origin. Toxic, poisonous.
- Trachoma.** A disease of the conjunctiva of the eye, marked by the formation of small granulations on the lids and other changes.
- Tractors.** Metallic substances drawn across the skin in the attempted cure of various disorders.
- Trapezius Muscle.** A powerful muscle by the action of which we are able (*inter alia*) to raise our arms above our heads.
- Trismus.** Lock-jaw.
- Trophic.** Pertaining to nutrition.

Tuberculosis. An infectious disease caused by a specific bacillus and resulting in the formation of tubercles in the tissues. Other changes also occur.

Vascular. Pertaining to blood-vessels.

Vesical Calculus. Stone (of varying composition) in the bladder.

Vesication. The production of a bleb resembling a blister.

Vibrio. A peculiarly shaped microbe. A large number of different varieties is now known to exist.

Voluntary Muscle. Any muscle which is under control of the will. Nearly always striped.

Wrist-Drop. A drooping wrist caused by paralysis of the extensor muscles of the forearm.

LIST OF AUTHORITIES CITED

- I Marius the Epicurean. Walter Pater.
- II History of the Rise of Rationalism in Europe.
W. E. H. Lecky. Ed. 1910.
- III Short Studies on Great Subjects. J. A. Froudo.
- IV Body and Soul. Rev. P. Dearmer.
- V Hibbert Journal. London.
- VI Mesmerism and Christian Science. Podmore.
- VII Considérations sur le Magnétisme animal. Ber-
gasse.
- VIII Supplément aux deux Rapports de MM. les
Commissaires, etc. Paris. 1784.
- IX Histoire Critique. Deleuze. 1813.
- X Du Magnétisme animal. Paris. 1807.
- XI London Medical and Physical Journal.
- XII Researches on Magnetism (etc.) in their relations to
Vital Force. B. v. Reichenbach. Tr. W. Gregory.
- XIII Histoire de la Guérison d'une jeune personne.
Paris. 1814.
- XIV Ausführliche historische Darstellung einer höchst
merkwürdigen Somnambule. C. Romer. Stutt-
gart. 1821.
- XV Die Schutzgeister. H. Werner. 1839.
- XVI The Magic Staff. A. J. Davis.
- XVII The Principles of Nature, Her Divine Revelations
and a Voice to Mankind. 34th ed. 1876.
- XVIII Life of Laurence Oliphant. M. O. W. Oliphant.
- XIX Arcana of Christianity: the Apocalypse. T. L.
Harris. 1867.
- XX Medicine and the Church. Ed. G. Rhodes.
- XXI Miscellaneous Writings. M. B. Eddy.
- XXII Retrospection and Introspection. M. B. Eddy.
- XXIII McLure's Magazine, 1907.
- XXIV Zoist. London. (Begun) 1843.
- XXV Christian Science. M. Twain. 1907.
- XXVI Histoire académique. Burdin & Dubois. 1840.
- XXVII Account of a successful Amputation, etc. London.
1843.
- XXVIII The Lancet. London.
- XXIX Introduction of Mesmerism into India. J. Es-
daile. London. 1846.
- XXX The Influence of Mind upon the Body. Hack
Tuke. London. 1884.
- XXXI Annales Médico-Psychologiques. Paris. Ed.
Baillarger and others.

- XXXII Psychological Journal. London.
- XXXIII Brain. London.
- XXXIV Letters to a Candid Enquirer on Animal Magnetism. W. Gregory. London. 1851.
- XXXV De l'Imagination. J. B. Démangeon.
- XXXVI Zoonomia. Erasmus Darwin.
- XXXVII De la Physionomie. P. Gratiolet. 1843.
- XXXVIII Physiology of the Senses. J. Müller. Tr. Dr. Baly. 1848.
- XXXIX Inquiries into the Human Faculty and its Development. Galton, 1885.
- XL On Hallucinations. B. de Boismont. Tr. R. T. Hulme.
- XLI Human Physiology. Carpenter. 4th ed.
- XLII Fortnightly Review. London.
- XLIII Transactions of the International Congress, 1881.
- XLIV Journal of Mental Science. London.
- XLV The Works of John Hunter. Ed. Palmer. 1838.
- XLVI Practical Observations in Medicine. Marshall Hall. 1845.
- XLVII Journal des Connaissances Médico-Chirurgicales. 1851.
- XLVIII Medical Histories and Reflections. Dr. Ferrier.
- XLIX Magic, Witchcraft, Animal Magnetism, etc. J. Braid. 1852.
- L Biennial Retrospect of New Sydenham Society. 1865-6.
- LI The Expression of the Emotions in Man and Animals. C. Darwin.
- LII Principles of Psychology. H. Spencer. 2nd ed. 1870.
- LIII The Anatomy and Physiology of Expression, etc. Sir C. Bell.
- LIV Clinical Medicine. Trousseau. Tr. Dr. Bazire. 1868.
- LV Revivals in Ireland. Dr. Massie.
- LVI Medical Times and Gazette. London.
- LVII The Commonwealth. London.
- LVIII American Journal of Psychology.
- LIX An Inquiry into the Nature and Origin of Mental Derangement, etc. A. Crichton. 1798.
- LX Clinical Lectures and Essays. Sir J. Paget. 1875.
- LXI Good Words. London.
- LXII Sketches from the Case-book to illustrate the Influence of Mind on the Body. R. Fletcher.
- LXIII A Manual of the Nervous Diseases of Man. M. H. Romberg.

- LXIV American Journal of Insanity.
 LXV The Daily Telegraph. London.
 LXVI Essais de Physiologie Philosophique. Durand.
 LXVII A Practical Compendium of Midwifery. Gooch.
 LXVIII The Power of the Soul over the Body. Dr. Moore.
 LXIX Edinburgh Medical Journal.
 LXX Les Stigmatisées. Imbert Gourbeyre. Paris. 1873.
 LXXI The Life of St. Francis of Assisi. Mrs. Oliphant.
 LXXII Louise Lateau, la Stigmatisée de Bois d'Haine.
 Bruxelles. 1873.
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 LXXV Studies on Functional Nervous Disorders. C.
 Handfield Jones.
 LXXVI Clinique Médicale. H. Andral. Paris.
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 M. F. X. Bichat.
 LXXVIII Medical Essays. J. H. Sealy.
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 Practice of Medicine and Surgery. T. J. Pettigrew.
 LXXX Diseases of the Joints. Sir B. Brodie.
 LXXXI Fraser's Magazine. London.
 LXXXII Inquiries concerning the Intellectual Powers.
 Dr. Abercrombie.
 LXXXIII Life of Sir H. Davy. Dr. Paris.
 LXXXIV Annales de Lourdes.
 LXXXV L'Union Médicale. Paris.
 LXXXVI Observations on Popular Antiquities. J. Brand.
 Ed. 1877.
 LXXXVII On the Scurvy. Dr. Lind.
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 XC Life of Edward Irving. Mrs. Oliphant.
 XCI On the Imagination as a Cause and as a Cure of
 Diseases of the Body, etc. Dr. Haygarth.
 XCII Autobiography of John Vine Hall. 1865.
 XCIII Practical Instruction in Animal Magnetism. J. F.
 Deleuze. Tr. T. C. Hartshorn.
 XCIV Neurypnology: or the Rationale of Nervous
 Sleep, etc. J. Braid. 1843.
 XCV Observations on the Nature and Treatment of
 Certain Forms of Paralysis. J. Braid. 1855.
 XCVI Medicina Diastatica or Sympatheticall Mumie,
 etc. Abstracted from the works of Paracelsus by
 A. Tentzelius. Tr. F. Parkhurst. London. 1653.

348 LIST OF AUTHORITIES CITED

- XCVII Van Helmont's Workes, translated. London. 1664.
- XCVIII Mosaical Philosophy. London. 1653.
- XCIX Du Magnétisme animal en France. Bertrand. Paris. 1826.
- C Notes on the Miracles. Archbp. Trench.
- CI Origenes contra Celsum. Ante-Nicene Christian Library. Edin. 1872.
- CII Apologeticum. Tertullianus.
- CIII University Sermons. J. H. Newman. Ed. 1844.
- CIV Two Essays on Scripture Miracles. J. H. Newman.
- CV Prælect: Theol: Perrone.
- CVI Miracles in the New Testament. J. M. Thompson.
- CVII The Gospel of the Miraculous. A. F. W. Ingram. 1913.
- CVIII The Dawn of All. R. H. Benson.
- CIX Civilization at the Cross Roads. J. N. Figgis.
- CX The Church Times. London.
- CXI Spiritual Healing. Report of a Clerical and Medical Committee. London. 1914.
- CXII The Healer. London.
- CXIII The Christian Religion as a Healing Power. Worcester and McComb. 1910.
- CXIV British Medical Journal. London.
- CXV The Times. London.
- CXVI The Weekly Dispatch. London.
- CXVII The Quarterly Review. London.
- CXVIII Mind Cures. G. Rhodes. 1915.
- CXIX Ephemera Eternitatis. J. Kelman. 1910.
- CXX Hypnotism and Treatment by Suggestion. J. M. Bramwell.
- CXXI Roman Society from Nero to Marcus Aurelius. Dill.
- CXXII Seale Hayne Neurological Studies.
- CXXIII Varieties of Religious Experience. W. James.
- CXXIV Happiness as found in Forethought, etc. H. Fletcher. Chicago. 1897.
- CXXV Ideal Suggestion through Mental Photography. H. Wood. Boston. 1899.
- CXXVI Voices of Freedom. H. W. Dresser.
- CXXVII Natural Causes and Supernatural Seemings. H. Maudsley. 1886.
- CXXVIII In Tune with the Infinite. R. W. Trine. 26th ed.
- CXXIX Daily Chronicle. London.
- XXXX Hypnotism. Albert Moll.
- XXXXI Arthur J. Balfour as Philosopher and Thinker.
- XXXXII New Eyes in answer to Prayer. G. Evison.

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